Annual Reports PPC Vol. 2, 1959

TABLE OF CONTENTS

ANNUAL REPORTS
Fiscal Year 1959

Volume 2

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
SOUTHERN REGION

ANNUAL PROGRAM REPORT

MEDITERRANEAN FRUIT FLY

July 1, 1958 - June 30, 1959

In cooperation with other
Federal, State, County, and Local Agencies

November 13, 1959
Gulfport, Mississippi

C. C. Fancher
Regional Supervisor

I. Highlights of Year's Program Activity

A. Accomplishments for the fiscal year

Following the eradication of the second infestation of the Mediterranean Fruit Fly in Florida, the last specimen being found November 26, 1957, the intensive trapping program was continued through the summer of 1958. Trap numbers were reduced during the winter of 1958-1959, and all plastic traps were converted to the combination traps to attract five species of fruit flies -- Mediterranean, melon, natal, Oriental, and Queensland. Small numbers of traps were continued in operation in Alabama, Georgia, Louisiana, Mississippi, South Carolina and Texas.

In cooperation with research agencies, studies were initiated on commodity treatment schedules for Florida products that would be affected in the event of an introduction of an economic species of fruit fly. Modifications were made in trapping procedures in keeping with latest research recommendations.

B. Major deviation from Work Plan

None

C. Status of Program at close of year

The Mediterranean Fruit Fly has been eradicated; however, a well organized trapping program is being continued for early detection of any new invasions that may occur.

II. Program Activity during fiscal year

A. Planning and Direction

1. How planned and directed

The program was planned and directed and all instructions issued jointly by personnel of the State Plant Boards of Florida, Alabama, Georgia, Louisiana, Mississippi and Texas. Very close working relationships were maintained with personnel of the Entomology Research Laboratories in Hawaii and Mexico and with the Florida Experiment Stations.

B. Technical Assistance

1. Technical assistance provided to farmers and others by program personnel

Grower organizations, as well as farmers and others, were kept informed on the fruit fly problem with special reference to the constant lookout for any new introductions.

2. Technical assistance provided to program by cooperating agencies

Personnel of the Entomology Research Laboratories of Hawaii and Mexico provided timely and pertinent information on trapping operations. Florida Experiment Station personnel conducted commodity treatment studies, using schedules developed elsewhere but testing them on Florida produce.

C. Survey

1. Procedures or techniques used

A plastic trap, known as the Steiner wick-type dry trap, was used in trapping operations for the five species of fruit flies in Florida and for the Mediterranean fruit fly in four other states. Oil of angelica seed, or ENT 21486, was the lure used in trapping operations for the Mediterranean and natal fruit flies. A 50/50 mixture of anisyl acetone and methyl eugenol was applied to a separate wick in the same trap to also attract the melon, Oriental, and Queensland fruit flies. DDVP was added to the lures in order that the flies would be killed upon entering the trap. A mixture of lindane-chlordane was applied in the bottom of the trap to protect the trapped insects from predators and assist in fly kill.

2. Accomplishments

During the year the maximum number of traps operated for the detection of Medfly was 33,256. All traps operated for Medfly were converted for use with combination lures, and a total of 7,864 was being operated at the end of the fiscal year.

Early in the fiscal year, particular attention was given to trapping operations in the vicinity of the last find in Manatee and Hillsborough Counties, Florida. Adjustments were gradually made in trapping operations so that by the end of the fiscal year, traps were being operated principally around possible points of entry, such as military and civilian airports, cargo ship docks, as well as ports used by large pleasure craft and shrimp boats, and other similar areas. Traps, by the end of the fiscal year, had been reduced to numbers which were deemed necessary for long-range detection trapping in order that new introductions would be detected promptly.

None of the species for which the traps are being specifically operated were taken; although a number of other species were collected including members of the genus Anastrepha. No larval specimens were taken in connection with the limited fruit cutting operations.

3. Statement or table of pest damage

Not applicable

D. Eradication or Control

Not applicable

E. Regulatory

Not applicable

F. Methods Improvement

Trapping procedures were reviewed with personnel of the Entomology Research Laboratory of Hawaii. Arrangements were made to install screens over the lower half of both entrances of the traps as this increased trap catches. All traps used in the field were converted. All plastic traps ordered early in the program were made of a material that turned cloudy under field conditions and these were replaced with a new polystyrene type of plastic trap. A change was made in location of one of the wicks which was baited with anisyl acetone methyl eugenol to improve trap effectiveness.

Studies were conducted with various formulations of a lindane-chlordane mixture to determine what mixture made trap tending simplest in relation to cleaning residues on each examination. Several formulae suggested by industry representatives or the Beltsville Research Laboratories were tested under field conditions.

Florida Experiment Station personnel at Homestead, Bradenton, and Lake Alfred are conducting studies to determine whether Florida-grown produce will withstand recognized fruit fly commodity treatment schedules. These studies include both dip and fumigation treatments. Special dip vats were constructed for use at these stations, and commodity treatment schedules and suggested procedures were reviewed with personnel at each station. Limited assistance was given to the Homestead station in connection with conducting some of these studies.

G. Other

1. Cooperation received during fiscal year

The Extension Service and State and Federal Research agencies continued to render every assistance in connection with the operation of the program. Grower organizations, as well as individuals, also continued to render assistance, particularly in relation to being on the lookout for any possible new introductions.

2. Associated activities and services

A number of talks were given, feature news stories written, and circulars distributed in connection with acquainting the public with the fruit fly program.

III. Recommendations for coming year

A. Survey

It is recommended that the trapping operations be continued at the same level as at the end of the fiscal year. It is recommended also that Plant Pest Control Division personnel continue to work closely with research agencies to make any modifications possible to improve the effectiveness of trapping work.

B. Eradication or control

Not applicable

C. Regulatory

Not applicable

D. Methods Improvement

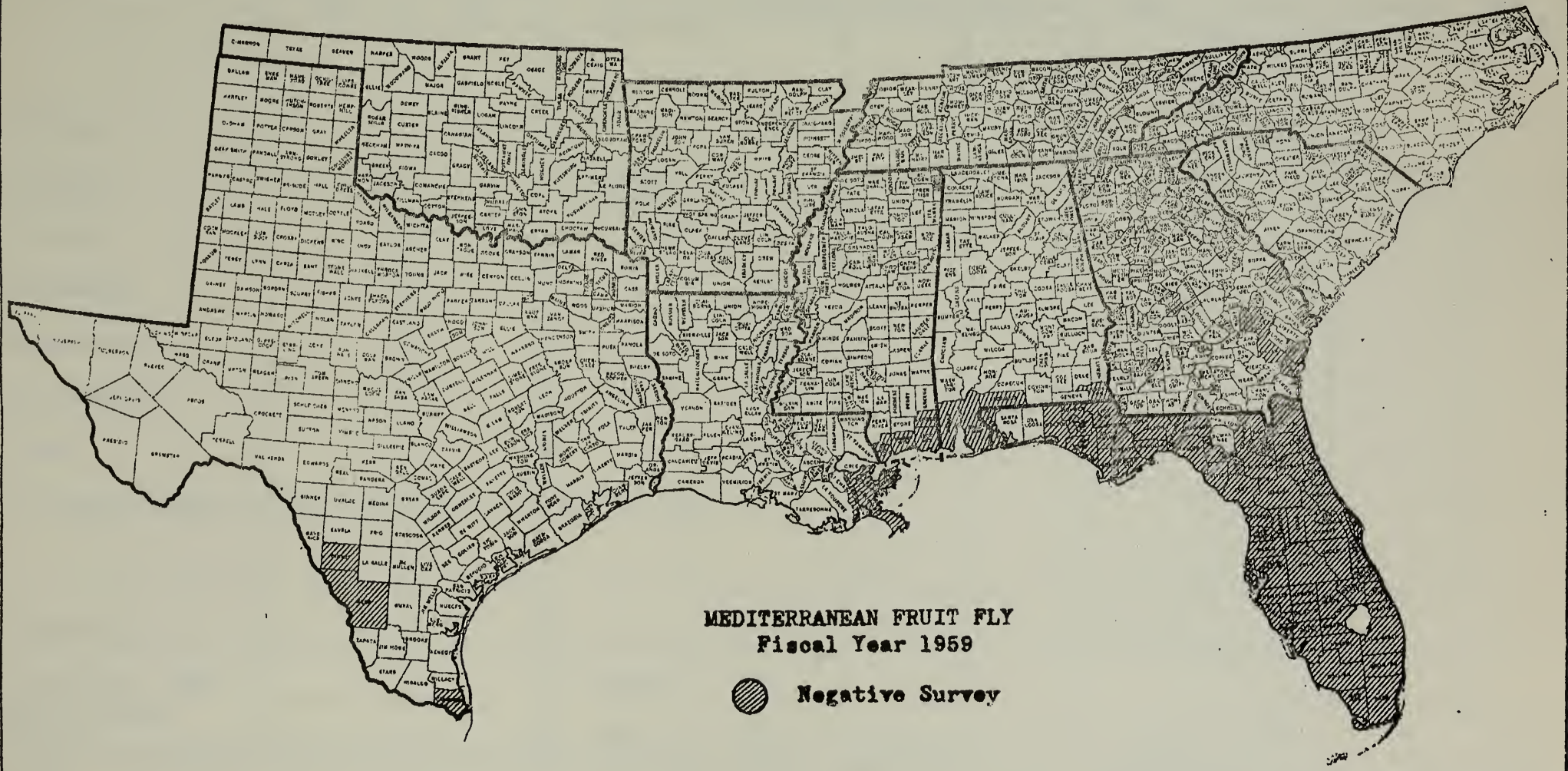
Plant Pest Control Division personnel should continue to work with research agencies in connection with commodity treatment studies and check on trapping operations, particularly when new lures are introduced to assure that schedules fit climatic conditions.

E. Associated Activities

Plant Pest Control Division personnel should continue to keep the public well informed in order that they will continue to be on the alert for new introductions.

SOUTHERN REGION

PLANT PEST CONTROL DIVISION



MEDITERRANEAN FRUIT FLY

Region	Prepared by
Southern	
Period *(Designate: Month, 1-15, 16-31, or 1-31)*	Date prepared
Fiscal Year 1959	

STATE AND COUNTY* A	NEW INFESTATIONS Previously Infested Counties: Old Spray Areas B	NEW INFESTATIONS Previously Infested Counties: Non-Spray Areas C	TRAPS IN USE: Florida D	TRAPS IN USE: Other States* E	POSITIVE SPECIMENS RECOVERED: Collections F	Properties G	Adults H	Larvae I	Recurrences J	New Finds K
Alabama				56						
Florida			32,865							
Georgia				36						
Louisiana				106						
Mississippi				63						
S. Carolina				85						
Texas				45						
Total This Period										
Total From July 1, 1958			32,865	391						
Total From Beginning of Program			XXX	XXX	3,174		7,619	4,345	8	1,921

* Highest number in use during any one month of F/Y.

* Designate date when Mediterranean Fruit Fly is found in county for the first time. Use date on which identifying authority signs for the item.

PPC 7-16
(Feb.-58)

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Service
Plant Pest Control Division

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Service
Plant Pest Control Division

Program Mediterranean Fruit Fly

SUMMARY OF ASSOCIATED ACTIVITIES

Prepared by: _____

Region Southern

Fiscal year 1959

Area	Public Meetings Attended	Presentations					Feature & News Stories	Extent These Aids Were Used				Special Reports
		Talks	Slides	Films	Radio	TV		Exhibits	Bul.	Cir.	Infest. Maps & Posters	
Florida	7	1	6	-	-	1	319	-	-	75	-	-
Georgia	-	-	1	-	-	-	-	-	3	3	-	-
Total	7	1	7	-	-	1	319	-	3	78	-	-

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
MEXICO REGION

ANNUAL PROGRAM REPORT

MEXICAN FRUIT FLY AND CITRUS BLACKFLY PROGRAM
Mexican Fruit Fly

July 1, 1958 - June 30, 1959

In cooperation with

MEXICAN DEFENSA AGRICOLA

November 16, 1959
Monterrey, N. L., Mexico

W. K. Clore
Regional Supervisor

I. Highlights of Year's Program Activity

A. Accomplishment for the Fiscal Year

Surveys and inspections indicate that the program objective of preventing the reinfestation and establishment of an incipient infestation of Mexican Fruitfly in Northern Baja California was accomplished. This was brought about through a seasonal eradication spray program, coupled with regular inspections of the fruit markets in the principal cities, and the maintenance of strategically located inspection stations for the purpose of intercepting and destroying or treating by fumigation of all host fruits from the infested areas.

B. Major Deviation from Work Plan

The eradication spray program was discontinued after October 20, 1958 instead of December 15, and was not resumed as a protective measure as set out in the work plan March 15, 1959, but was delayed until May 12, the day following the trapping of a male fruit fly specimen on a city lot in Tijuana, Baja California.

C. Status of the Program at Close of Year

Based on the results of the survey and trapping operations, the main objective of preventing the re-entry and establishment of an infestation in Northern Baja California of Mexican fruit fly was accomplished.

It is believed that the only specimen, trapped May 11, 1958, during the entire fiscal year resulted from a contraband shipment of infested fruit and did not signify an infestation.

II. Program Activity during Fiscal Year

A. Planning and Direction

1. How Planned and Directed

The Chief of the Northwest Protective Zone of the Mexican Defensa Agricola and the PPC Supervisor in Charge and his assistant plan together the various program activities, such as surveys, trapping operations, eradication efforts, and the enforcement of quarantine regulations which includes the inspection of all types of traffic for quarantined commodities and the treatment of host fruits prior to certification for entry.

B. Technical Assistance

1. Technical Assistance Provided to Farmers and Others by Program Personnel

(Not applicable)

2. Technical Assistance Provided by Cooperating Agencies

The Mexico City fruit fly laboratory of the Fruit Insect Section of Entomology Research Division makes recommendations on lures for trapping as well as bait spray formulas.

C. Survey

1. Procedures or Techniques Used

a. Field

Two methods were employed in the fruit fly survey. Fruit fly traps were operated in the fruit producing areas of Northern Baja California and in San Luis, Sonora, and host fruits were examined for larval infestations on the properties trapped. The purpose of the survey was to detect the fly if present and to delimit the infestation.

b. Laboratory (not applicable)

2. Accomplishments

The largest number of fly traps in operation at one time during the year was 2,098. Trap inspections totalled 77,696 on 961 properties. No flies were trapped from August 20, 1957 until May 11, 1959. One male A. ludens was taken from a trap on the latter date which constituted the only specimen recovered during the fiscal year. See table 1

Host fruits were examined when available for fruit fly larvae on all properties trapped, but none was detected.

3. Statement or Table of Pest Damage

There was no evidence of fruit fly damage in the area.

D. Eradication or Control

1. Procedures or Techniques Used

A protective spray program was maintained from July 1 to October 20, 1958, and from May 12, 1959 to the end of the fiscal year, to prevent the re-establishment of a fruit fly infestation in Northern Baja California. The spray applications were at 21-day intervals with a formulation of eight pounds of 25% wettable malathion and two pounds of SIB #7 as an attractant per 100 gallons of water.

2. Accomplishments

It is believed that no fruit flies survived the eradication spray treatment and that the area was maintained free of any infestations, based on the knowledge that only one adult fly was trapped during the year and no larvae were detected in locally grown fruits.

During the fiscal year 192,631 host trees were sprayed on 36,928 properties.

E. Regulatory

1. Procedures or Techniques Used

Quarantine inspection stations were maintained at strategic points to regulate the movement of host fruits of the Mexican fruit fly and agricultural products that might introduce other dangerous insect pests into Northwest Mexico. These inspections covered highway, railway, airway, and maritime passenger traffic and accompanying baggage, as well as express and cargo shipments. Daily examination of postal receipts as well as market inspections were maintained in the cities of Nogales, Sonora; Mexicali, Tijuana, and Ensenada, Baja California.

All commercial shipments of mangoes, plums, and citrus fruits were treated by fumigation with ethylene dibromide at two chambers, one located at Ensenada, B. C., and the other at Benjamin Hill, Sonora, before certification for entry into Northern Sonora and Baja California.

All of the regulatory operations were cooperative between the Defensa Agricola and the PPC Division and were accomplished through the authority of Mexico's Interior Quarantine #2. See Table 2

2. Accomplishments

Regular interceptions of host fruits infested with fruit fly larvae were made at the various inspection stations and points throughout the area.

During the fiscal year 1959, 780,143 kilos of mangoes, 434,643 kilos of oranges, 1,500 kilos of sweet limes, and 49,490 kilos of plums were treated at the two fumigation chambers, one located at Benjamin Hill, Sonora, and the other at Ensenada, Baja California, prior to certification for entry into Northern Sonora and Baja California, Mexico. See Table 3.

F. Methods Improvement (Not applicable)

G. Other

1. Cooperation Received during Fiscal Year

The Mexican fruit fly program is cooperative and conducted under a Memorandum of Understanding between the PPC Division of the USDA and the Mexican Defensa Agricola. The Defensa Agricola and the local patronatos pay a part of the salaries of inspectors at the road stations and other inspection points. They also furnish space for and part of the equipment at all road stations and share in the operating costs.

Automotive equipment is furnished by the patronatos for a number of Mexican inspectors.

All program activities are planned jointly by the Chief of the Northwest Protective Zone and the PPC Supervisor in Charge Western Mexico and his assistant.

2. Associated Activities and Services

Several meetings and conferences were attended by the supervisory personnel of Western Mexico with the state officials and county commissioners of California, together with representatives of the Western Region, for the purpose of discussing the Mexican fruit fly problems and coordinating the work.

III. Recommendations for Coming Year

A. Survey

Surveys should be maintained on a year round schedule in Baja California in those areas susceptible to infestation by the Mexican fruit fly, with the exception of the Mexicali Valley - surveys there should be conducted during the late fall and early spring months when the daily temperatures do not rise above 100° F.

B. Eradication and Control

It is recommended that the eradication spray program that was begun May 12, 1959 be continued until October 31, 1959, after which date it be discontinued until conditions warrant its resumption, this to be determined by the results of the trapping operations and the inspections of locally grown fruits.

C. Regulatory

All points of inspection in operation at this time should be maintained and strengthened as warranted, due to the large volume of infested and quarantined material that was consistently intercepted.

TABLE 1

MEXICAN FRUIT FLY

REGION: MEXICO

PREPARED BY:

PERIOD (Designate: Month, 1-15, 16-31, or 1-31): July 1, 1958 to June 30, 1959

DATE PREPARED:

STATE AND COUNTY A	VISUAL INSPECTION: PROPERTIES INSPECTED B	VISUAL INSPECTION: PROPERTIES INFESTED C	TRAPPING: PROPERTIES TRAPPED D	TRAPPING: TRAPS IN USE E	TRAPPING: TRAP SERVICINGS F	TRAPPING: PROPERTIES INFESTED G	TRAPPING: FLIES CAUGHT* H	HOST PLANTS SPRAYED I	PROPERTIES SPRAYED J	BOXES OF FRUIT** TREATED K
MEXICO										
BAJA CALIFORNIA										
Ensenada	4	0	116*	326*	11,206	0	0	0	0	0
Mexicali	0	0	84*	196*	2,780	0	0	0	0	0
Tecate	0	0	58*	165*	7,630	0	0	13,347	1,322	0
Tijuana	16	0	687*	1,413*	54,799	1	1	179,284	35,966	0
SONORA										
San Luis, RC	0	0	34*	89*	1,281	0	0	0	0	0
			(979*)	(2,189*)						
TOTAL THIS PERIOD										
TOTAL FROM JULY 1	20	0	961**	2,098**	77,696	1	1	192,631	37,288	0

* These figures represent maximum traps (& properties) set out at one time in these cities.
** These figures represent maximum traps (& properties) set out at one time in Western Mexico.

*INDICATE BY G IN PARENTHESIS WHEN FLIES ARE GRAVID.

**EQUIVALENT OF 70 POUND BOX

PPC 7-10 (JUN-58)

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION

MEXICAN FRUIT FLY

PERIOD (Designate: Month, 1-15, 16-31, or 1-31)	DATE PREPARED
July 1, 1974 to June 30, 1975	

STATE AND COUNTY A	VISUAL INSPECTION: PROPERTIES INSPECTED B	VISUAL INSPECTION: PROPERTIES INFESTED C	TRAPPING: PROPERTIES TRAPPED D	TRAPPING: TRAPS IN USE E	TRAPPING: TRAP SERVICINGS F	TRAPPING: PROPERTIES INFESTED G	TRAPPING: FLIES CAUGHT* H	HOST PLANTS SPRAYED I	PROPERTIES SPRAYED J	BOXES OF FRUIT** TREATED K
ARIZONA										
Maricopa County										
Phoenix	4	0	124	384	11,304	0	0	0	0	0
Scottsdale	0	0	54	124	2,700	0	0	0	0	0
Tempe	0	0	38	124	7,400	0	0	13,147	1,327	0
Tolleson	16	0	407	1,124	34,177	1	1	177,[illegible]	33,364	0
California										
San Diego, CC	0	0	34	84	1,201	0	0	0	0	0
			(577)	(2,[illegible])						
TOTAL THIS PERIOD										
TOTAL FROM JULY 1	20	0	[illegible]	2,[illegible]	77,[illegible]	1	1	190,633	77,[illegible]	0

* Indicate by G in Parentheses where flies are taken.

** Equivalent of 70 pound box

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION

Table 2

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION

Mexico Region

Cooperative Inspection Stations

F.Y. 1959

Inspection Stations	Type of Inspection	Number of Inspections	Number of Passengers & Braceros	Pieces of Baggage & Express	RR Cars and trucks cleaned &/or fumigated	Host Interceptions					
						Occasions			Items		
						MFF	CBF	PBW	MFF	CBF	PBW
BAJA CALIFORNIA											
Tijuana	Plane	2,395	49,313	178,655		857	138				
Mexicali	Plane	1,039	13,269	47,207							
	Trucks	504				180	13	23	410	42	29
	Railroad	10,246		12,674	204						
Ensenada	Plane	484	2,288	9,880		39	5				
	Boat	135	910	1,843		21	6		1	2	
SONORA											
San Luis	Rd. Station	15,137				1,229	69	148	624	4	
Benjamin Nill	RR cars	7,710			2,107						
	RR passgr	-	219,982						24,550	1,392	5,590
	Rd. Station	155,897			290	30,713	2,978	1,501			
Nogales	Plane	936	17,494	36,859		483	40	85			
	RR Mkt. Mail	Daily				807	59				
SINALOA											
Mazatlan	Rd. Station	55,771	120,938		1,436						
	Plane	548									
	RR cars	408	19,658								2,053 and 403 k. cottonseed
	RR trains	610									
	Baot	273									
Terreros	Rd. Station	72,078	158,047		989						2,032
TOTALS		324,171	601,899	287,118	5,026	34,329	3,308	1,757	25,585	1,440	10,107

Table 3

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION

Mexico Region

MEXICAN FRUIT FLY

Fiscal Year 1959

FUMIGATION OF FRUIT

Location	Kilos of Fruits Fumigated				Total
	Mangoes	Oranges	Sweet Limes	Plums	
SONORA					
Benjamin Hill	718,575	434,643	1,500	49,490	1,204,208
BAJA CALIFORNIA					
Ensenada *	61,568	-	-	-	61,568
Total Kilos	780,143	434,643	1,500	49,490	1,265,776

* 469 boxes of mangoes were also fumigated, weight not mentioned.

* Column A: List entries in the following order:

1. PLANT PEST CONTROL DIVISION units. Name states. Include only direct appropriation, allotments from other sources, services and supplies for which there is an actual cash expenditure.

2. Sub-total for all PPC funds included in (1).

3. OTHER ORGANIZATIONS. Name organizations by States. Include only direct appropriation, allotments from other sources, services and supplies for which there is an actual cash expenditure, or measurable cash expenditure.

4. Sub-total for all OTHER ORGANIZATIONS, funds included in (3).

5. Totals of PPC and OTHER ORGANIZATIONS, funds included in (2) plus (4).

6. CONTRIBUTED SERVICES. Name organizations by State. Limit to services incidental to other activities for which only an estimated value is available.

7. Total of CONTRIBUTED SERVICES, items included in (6) only.

8. GRAND TOTAL of (5) and (7) entries.

TABLE 4

PROGRAM COST DISTRIBUTION

U. S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION

NAME OF PROGRAM	OPERATING UNIT	SIGNATURE	DATE	FISCAL YEAR
MEXICAN FRUIT FLY	MEXICO REGION	W. F. Clark Reg. Supervr.	16 NOV 1959	1959

SOURCE OF CASH AND EQUIVALENT (A) *	PLANNING AND DIRECTION (B)	TECHNICAL ASSISTANCE (C)	SURVEY (D)	CONTROL (E)	REGULATORY (F)	METHODS IMPROVEMENT (G)	~~OTHER~~ Not Sub-divided (H)	TOTAL (I)
1. PLANT PEST CONTROL ARS								
Headquarters	5,250							5,250
East Mexico								-
West Mexico	10,575	1,150	8,935	16,355	18,825			55,840
2. SUB-TOTAL	15,825	1,150	8,935	16,355	18,825			61,090
3. OTHER								
West Mexico								
Defensa Agricola							5,913	5,913
Patronatos							2,067	2,067
4. SUB-TOTAL							7,980	7,980
5. T O T A L	15,825	1,150	8,935	16,355	18,825		7,980	69,070
6. CONTRIBUTED SERVICES								
West Mexico								
Mexican Fed. Gov't.							311	311
7. T O T A L							311	311
8. GRAND TOTAL	15,825	1,150	8,935	16,355	18,825		8,291	69,381

* Column A: List entries in the following order:

1. PLANT PEST CONTROL DIVISION units. Name states. Include only direct appropriation, allotments from other sources, services and supplies for which there is an actual cash expenditure.

2. Sub-total for all PPC funds included in (1).

3. OTHER ORGANIZATIONS. Name organizations by States. Include only direct appropriation, allotments from other sources, services and supplies for which there is an actual cash expenditure, or measurable cash expenditure.

4. Sub-total for all OTHER ORGANIZATIONS, funds included in (3).

5. Totals of PPC and OTHER ORGANIZATIONS, funds included in (2) plus (4).

6. CONTRIBUTED SERVICES. Name organizations by State. Limit to services incidental to other activities for which only an estimated value is available.

7. Total of CONTRIBUTED SERVICES, items included in (6) only.

8. GRAND TOTAL of (5) and (7) entries.

SOURCE OF CASH AND EQUIVALENT (A)	PLANNING AND DIRECTION (B)	TECHNICAL ASSISTANCE (C)	SURVEY (D)	CONTROL (E)	REGULATORY (F)	METHODS IMPROVEMENT (G)	NOT DESIGNED (H)	TOTAL (I)
1. PLANT PEST CONTROL AMS								
Headquarters	5,250							5,250
East Mexico								—
West Mexico	10,575	1,150	4,935	16,355	16,825			51,840
2. SUB-TOTAL	15,825	1,150	8,935	16,355	16,825			61,090
3. OTHER								
West Mexico								
Botrosa Agricola							5,913	5,913
Fumigatos							2,067	2,067
4. SUB-TOTAL							7,980	7,980
5. T O T A L	15,825	1,150	8,935	16,355	16,825		7,980	69,070
6. CONTRIBUTED SERVICES								
West Mexico								
Mexican Fed. Gov'ts.							311	311
7. T O T A L							311	311
8. GRAND TOTAL	15,825	1,150	8,935	16,355	16,825		8,291	69,381

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
SOUTHERN REGION

ANNUAL PROGRAM REPORT

MEXICAN FRUIT FLY

July 1, 1958 - June 30, 1959

In cooperation with other
Federal, State, County, and Local Agencies

November 13, 1959
Gulfport, Mississippi

C. C. Fancher
Regional Supervisor

I. Highlights of Year's Program Activity

A. Accomplishment for the fiscal year

Compliance with the new Mexican Fruit Fly Quarantine, revised October 25, 1957, was most satisfactory again this year with no violations detected.

The movement of citrus fruits without treatment, under permit, was again permitted to the states of Arizona, California, and Florida, from the opening of the 1958-59 shipping season through November, as the result of negative trap operations during that period. All citrus shipped to the above major citrus producing states after December 1 was fumigated with ethylene dibromide.

Beginning April 1, and continuing until the end of the shipping season, all grapefruit was treated before shipment to the states of Alabama, Arkansas, Georgia, Louisiana, Mississippi, New Mexico, Oklahoma, South Carolina, and Texas, outside of the regulated area. Approximately 75% of all grapefruit shipments made during the above period to restricted areas were consigned to Texas markets. Unrestricted movement of citrus to all other states was permitted throughout the year.

Five additional fumigation chambers were constructed during the year including one mobile unit used by a commercial company for treatment, on a fee basis, of express and single-box shipments destined to restricted areas during the time fumigation requirements were in effect. Two such units operated this year. These mobile units were of great benefit to the program, as gift fruit shippers, who are largely individual growers, were provided facilities whereby single packages could be left at the express offices, and shipments consigned to restricted states assembled at one point, fumigated and certified. At the close of the fiscal year, there were twenty-eight approved fumigation rooms in the regulated area, including two mobile units used for small-lot shipments.

There were no new infestations found during the fiscal year outside of the presently regulated area.

A revised Manual of Administratively Authorized Treatments for the Certification of Regulated Products and Articles - Mexican Fruit Fly Quarantine - was approved for use the latter part of the fiscal year.

B. Major Deviation from Work Plan, if any

The only change of any importance resulted from extension of fumigation requirements on grapefruit shipped to restricted

states from March 1 to April 1. The extension was granted on the basis of a comparatively low fruit fly population this year.

There was also considerable change made in the period of trap operations. Last year, fiscal year 1958, trap operations were discontinued on March 1. Traps were operated this period through the month of May. Also, more grove inspections were made this year for possible larval infestations, especially during March which covered the extension period on fumigation requirements.

C. Status of Program at close of year

During the 1958-59 season, first infestations, both adult and larval, were discovered unusually late in the season. Other than a couple of adults trapped fairly early in the season, it was March before any other specimens were taken. No fruit flies were trapped after the first week in May. Even though the population of adult flies, as revealed by trap inspections, was low throughout the year, the insect was again present in Texas orchards.

It was reported that the wild host in Mexico, yellow chapote (Sargentia greggii), had a very light crop of fruit again this year, which was probably the reason why infestations were lighter and later in Texas orchards throughout the year.

II. Program Activity during fiscal year

A. Planning and Direction

1. How planned and directed

Work Plans were directed by Regional, Area, and District personnel. Road station operations were conducted by State personnel with intermittent assistance from Program personnel. Work unit supervisors had full responsibility for the administration of planned activities in the several work units.

B. Technical Assistance

1. Technical assistance provided to farmers and others by program personnel

Program personnel provided technical assistance to citrus fruit packers and shippers in the proper construction of fumigation chambers and supervised all treatment operations.

2. Technical assistance provided to program by cooperating agencies

Research workers, assisted by Program personnel, conducted several experiments in Texas during the year with regard to low temperature fumigation, treatment of wrapped fruit, dispersal of fumigants, and the operation of lure comparison traps.

Local shippers furnished fumigation chambers for short periods to Research workers for use in conducting tests on commodity treatments.

The Plant Quarantine Division furnished the Program District office copies of "Certificate of Inspection and Treatment," PQ Form 369, on all importations of Mexico citrus released in Texas. This information was most helpful in the handling of Mexico fruit under Quarantine 64.

C. Survey

1. Procedures or techniques used

a. Field

Operation of traps and grove inspections were the methods of survey used. Traps were for detecting the presence of adult flies in the orchards and also as a measure of population over the area. Grove inspections were for the purpose of locating larval infestations in the field. The type trap used was the invaginated (McPhail) glass trap baited with standard lure - fermenting sugar.

b. Laboratory

The only laboratory work employed was tentative identification of specimens trapped. All collections made from lure comparison traps were forwarded to Beltsville for official determination.

2. Accomplishments

The maximum number of traps in operation at any one period was during October and November 1958, when 2,084 traps were in use. Beginning with the month of December, traps were reduced in number to 1,080. Traps were in operation and serviced at weekly intervals from October 1 through May 31. Other than 320 lure comparison traps operated from

early January until the middle of May for Entomology Research, all traps were baited with the standard fermenting lure. Counties trapped included Brooks, Cameron, Dimmit, Hidalgo, Jim Hogg, Starr, Webb, Willacy, and Zapata. Only Cameron, Hidalgo, Webb, and Willacy counties were found infested this year. During the year, 34,322 trap servicings were made on the 147 properties trapped. Twenty-one Mexican fruit flies were trapped on 15 properties.

Grove inspections were made on 183 properties. Five groves were discovered infested with Mexican fruit fly larvae. These were found during April and all were comparatively light, ranging from 1 to 4 infested trees per property.

3. Statement or table of pest damage

Populations were of such low density that there was no commercial or economic damage during the 1958-59 citrus season.

D. Eradication or Control

1. Procedures or techniques used

The present program, due to migration of the insect from Mexico, is designed as one of containment and prevention of spread, rather than eradication.

Fumigation of infested or exposed fruits with ethylene dibromide was the method of treatment used exclusively during fiscal year 1959. The procedure described in the Treatment Manual was followed in all operations.

2. Accomplishments

During the reporting period, 353,606 boxes (70# equivalent) of citrus, mostly grapefruit, were treated before shipment to restricted states.

E. Regulatory

1. Procedures or techniques used

Certification, besides direct supervision of fumigations made, and recording of each operation, included the issuance of Master Permits on each commercial shipment denoting treatment applied. Other than commercial shipments (railway cars and trucks) stamp imprints were required on

individual containers (single-box shipments) consigned to restricted areas.

2. Accomplishments

Permits were issued throughout the season on all shipments made to Arizona, California and Florida. From the opening of the 1958-59 shipping season through the month of November, certificates were issued on the basis of negative trap results. Beginning December 1 and continuing throughout the remainder of the season, permits on shipments to the major citrus producing states were issued only after approved treatment. During the year, 433 Master permits were issued on 191,257 boxes (70# equivalent) of citrus to California. No record was available on single-box shipments made. Only a few shipments were certified to Arizona and Florida. Beginning April 1 this year, certification was required for the remainder of the season on all grapefruit shipments made to the southern states. Thirteen hundred Master permits covering approximately one-half million boxes (70# equivalent) of citrus were issued during the year. No certification was required on shipments to the northern states.

F. Methods Improvement

1. Work Performed

Efforts were continued towards improvement of fumigation procedures and techniques, especially the introduction of fumigants into the chambers. Two new methods of volatilization were tested which included spray nozzles and droplets of the fumigant into the circulating air stream in lieu of the electric hot plate method.

2. Accomplishments

No conclusions were reached on the above work performed. The only method that has been approved for the introduction of ethylene dibromide into chambers is volatilizatic with an electric heating plate.

A trap operator, an L/A employee, conceived the idea that a 1/4" hole covered with a screen through the rubber stopper used in the invaginated (McPhail) glass trap might increase the "pulling" distance of the lure used by allowing the odor to escape through the top of the trap. The modified stopper was used in a few traps near

the end of the trapping season and two such equipped traps caught five Mexican fruit flies in one trap day. The suggestion may have much merit and will be developed further.

G. Other

1. Cooperation received during fiscal year

a. List major contributions received and show importance to program (other than funds).

The Program continued to receive excellent cooperation from the citrus industry in all phases of the work, more especially from shippers and packers with fumigation chambers . The fumigation method of treatment was considered a part of the packing process and no complaints were received.

The Texas Department of Agriculture cooperated closely for the purpose of checking certification of shipments leaving the regulated area after fumigation requirements went into effect.

The railway express agency and other common carriers cooperated fully in the handling of shipments on which treatment and certification was required.

Most roadside stand owners and operators followed regulations by either having their fruit fumigated during the period treatment was required or not selling to tourists going to restricted states.

Newspapers, TV and radio stations also cooperated in furnishing the public information on quarantine regulations after fumigation requirements were invoked.

b. Cooperative work needing strengthening another year

There is no particular need for strengthening cooperative work another year.

2. Associated activities and services

a. Program servicing

Since the Mexican fruit fly program is an old and established program in Texas, about the only program servicing ever needed is when changes are made in the quarantine. When the fumigation date was extended this year from March 1 to April 1 on shipments to

southern states, a news article was released announcing the extension. No public meetings on the Program were held this year.

III. Recommendations for coming year

A. Survey

In order to have statistical data as to density of fly population, at least a few traps should be operated throughout the year. Casual grove inspections should be made, especially if the fly population is high, in order to detect potential economic damage.

B. Eradication or control

The present control methods are adequate unless new areas are found infested and eradication applied.

C. Regulatory

When trap inspections reveal a low fly population on March 1, fumigation requirement should be extended until April 1.

D. Methods Improvement

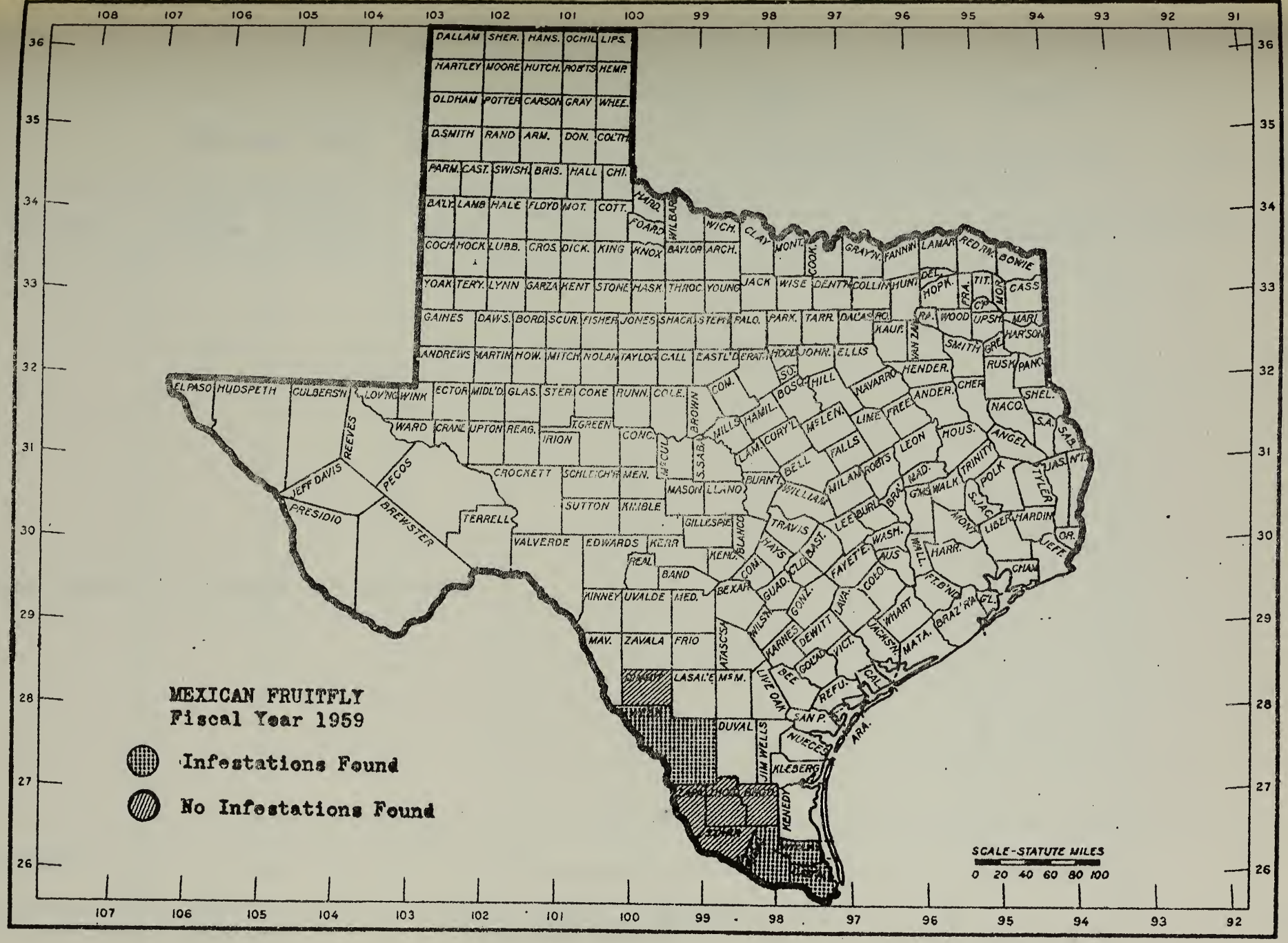
There is need of approval for treatment of citrus at a lower temperature than 60° F. The prolonged cold weather from December to April 1958-59, made it necessary for shippers to apply heat to raise the temperature above the approved minimum of 60° F.

As new lures for Mexican fruit fly trapping are found, they should be tested under Texas conditions.

The modified stopper, suggested by a temporary Program employee, should be thoroughly tested during the coming year.

E. Associated Activities

It is recommended that close contact and cooperation with organizations representing the citrus industry be continued.


MEXICAN FRUITFLY
Fiscal Year 1959
Infestations Found
No Infestations Found
SCALE-STATUTE MILES
0 20 40 60 80 100

MEXICAN FRUIT FLY

REGION: Southern

PREPARED BY:

PERIOD (Designate: Month, 1-15, 16-31, or 1-31): Fiscal Year 1959

DATE PREPARED:

STATE AND COUNTY A	VISUAL INSPECTION		TRAPPING					HOST PLANTS SPRAYED I	PROPERTIES SPRAYED J	BOXES OF FRUIT** TREATED K
	PROPERTIES INSPECTED B	PROPERTIES INFESTED C	PROPERTIES TRAPPED D	TRAPS IN USE * E	TRAP SERVICINGS F	PROPERTIES INFESTED G	FLIES CAUGHT* H			
Texas	183	5	147	2,084	34,322	15	21			353,606
TOTAL THIS PERIOD										
TOTAL FROM JULY 1, 1958	183	5	147	2,084	34,322	15	21			353,606

* Maximum number in use during any one month.

*INDICATE BY G IN PARENTHESIS WHEN FLIES ARE GRAVID.

**EQUIVALENT OF 70 POUND BOX

PPC 7-10
(JUN-58)

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Service
Plant Pest Control Division

Program Mexican Fruit Fly

SUMMARY OF ASSOCIATED ACTIVITIES

Prepared by: _____

Region Southern

Fiscal year 1959

Area	Public Meetings Attended	Presentations					Feature & News Stories	Extent These Aids Were Used				Special Reports
		Talks	Slides	Films	Radio	TV		Exhibits	Bul.	Cir.	Infest. Maps & Posters	
Texas	1	-	-	-	-	-	8	-	-	-	-	-
Total	1	-	-	-	-	-	8	-	-	-	-	-

MEXICAN FRUIT FLY CONTROL

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PROGRAM ANNUAL REPORT
1959 FISCAL YEAR

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UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
WESTERN REGION

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UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
WESTERN REGION

ANNUAL PROGRAM REPORT

MEXICAN FRUIT FLY CONTROL

July 1, 1958 - June 30, 1959

In cooperation with
County, State, Federal, and Local Agencies

December 1, 1959

Oakland, California

Jim R. Dutton

Regional Supervisor

TABLE OF CONTENTS

HIGHLIGHTS OF YEAR'S PROGRAM ACTIVITY

Accomplishment for the Fiscal Year

A program to detect the possible occurrence of the Mexican fruit fly is conducted cooperatively in the States of Arizona and California. Cooperative Federal, Mexican, and State efforts have been successful to date in preventing the establishment of this pest in fruit-growing areas in Arizona and California. Program activities include:

1. Detection

   A year-round trapping program was conducted in San Diego County, California and in Santa Cruz County, Arizona. Traps were operated during the winter months in Yuma County, Arizona and Imperial County, California.

   Temperatures are too high during the summer months for fly survival in the latter areas. No Mexican fruit flies were caught in any of the trapping areas during the fiscal year. As a result of tests conducted by the Entomology Research Laboratory, about two-thirds of the traps in California were serviced with a lure consisting of one percent Staley's Insecticide Bait #7 and water. The balance were serviced with the regular fermenting lure. As soon as some field problems are solved, involving discoloration at low elevations, the remainder of the traps will be serviced with the SIB #7 water lure.

2. Treatment

   A spray program was conducted in a five-mile-wide strip in San Diego County, California adjacent to the Mexican Border. This involved treating all host trees within the barrier zone, many non-host resting places, and approximately 250 acres of brush in canyons near the Mexican Border. The program was carried out from early spring to late fall and included the treatment of 1,642 acres of brush, 199,670 host trees (principally dooryard trees in the San Ysidro area, and 48,772 non-host trees). During this operation 32,099 property visits were made. Spray formulation used on brushland consisted of 8 pounds of 50 percent methoxychlor in 5 gallons of water per acre.

On dooryard and street side host and non-host spraying, a formulation of 4 pounds of 25 percent malathion and one quart of SIB #7 in water was used on foliage. The amount of water varied depending on the size of the trees and the type of spray machine used. The brushland spraying with methoxychlor was by plane at 6-week intervals. The dooryard and street side spraying with malathion was done at 3-week intervals.

Materials were furnished by the Plant Pest Control Division and application by the California State Department of Agriculture.

3. Fruit Inspection

Fallen host fruit within the area was collected, inspected, and properly disposed of. For this purpose, 48,873 property visits and 53,474 larval inspections were made in California, with negative results.

Major Deviation from Work Plan

Because of extremely high temperatures which were nonconducive to fly survival in the Yuma area of Arizona, the starting date of trapping was delayed from October to late November.

Deviations from the California Work Plan included:

1. The use of one quart of SIB #7 to replace partially hydrolyzed yeast and Staley's No. 2 in spray formulations.

2. The use of SIB #7 to replace the fermenting lure used in about two-thirds of the traps.

3. The discontinuance of spraying in a narrow marginal area along the northern boundary of the barrier zone south of Chula Vista.

4. The deletion from the spray program of some of the laboratory host plants, whenever an adequate number of preferred host trees was present.

5. The use of a Buffalo Turbine in part of the brushlands area where more effective treatment was made possible by use of ground rather than of air equipment.

Status of Program at Close of Year

Because the program has been successful in preventing the establishment of Mexican fruit fly in Arizona and California, no major program changes are contemplated. As long as infested fruit is moving from the interior of Mexico to Mexican Border areas, it appears that this detection and prevention program is necessary to protect the fruit interests of California and Arizona particularly.

PROGRAM ACTIVITY DURING FISCAL YEAR

Planning and Direction

How planned and directed

In Arizona the Commission of Agriculture and Horticulture and the Plant Pest Control Division Supervisor in Charge cooperatively planned and directed the program. Federal and State employees handled the placing and servicing of traps. County agricultural agents and Plant Quarantine Division personnel furnished valuable assistance to the program by locating favorable sites for trapping operations.

In California the program was cooperatively conducted by the California Department of Agriculture, Departments of Agriculture of Imperial and San Diego Counties, and Plant Pest Control Division. The Chief of the California Bureau of Entomology and his assistant represent the State. The Agricultural Commissioners and their deputies represent the Counties. The State Supervisor and his assistant represent the Plant Pest Control Division.

Technical Assistance

Technical assistance to the program was given by the Entomology Research Laboratory in Mexico City. This involved tests of various spray formulations and trapping lures, and recommendations for changes to more effective materials.

Survey

The Plant Pest Control Division did not participate in any detection work outside the program area; however, the State of California and several counties carried on extensive detection programs for all fruit flies of economic importance.

Control

Not applicable as such; although the purpose of this program is to prevent the establishment of an infestation which would require extensive eradication or control operations.

Regulatory

Not applicable at this time.

Other

The activities of all agencies involved were satisfactory. Personnel assigned to the work by County and State Departments of Agriculture were adequate in number and well-trained for their work. Although no assistance was received from industry, it offered its help if needed.

RECOMMENDATIONS FOR COMING YEAR

Survey

The present program of trapping and host material inspections should be continued in the same work areas.

Regulatory

We are prepared to apply measures as warranted.

Methods Improvement

There is a continuing need for more effective lures and spray formulations.

Other

Not applicable.

FIELD ACTIVITIES

Mexican Fruit Fly Control — Fiscal Year 1959

Spraying*

Number of property visits (principally dooryard)	32,099
Number of host tree treatments	199,670
Number of acres brushland sprayed	250
Number of aggregate acres brushland sprayed	1,642
Number of non-host tree treatments	48,772

*Applications by California Department of Agriculture. Materials furnished by Plant Pest Control Division. 200 acres brushland sprayed by plane. Balance by ground equipment.

Trapping

Average number of traps in use	4,662
Average number of properties trapped	1,869
Number of trap inspections	177,966
Number of flies trapped	0

Visual Inspection

Number of property visits	48,873
Number of properties infested	0

MEXICAN FRUIT FLY STATISTICAL SUMMARY

Fiscal Year 1959

STATE AND COUNTY A	VISUAL INSPECTION		TRAPPING					HOST PLANTS SPRAYED I	PROPERTIES SPRAYED J	BOXES OF FRUIT** TREATED K
	PROPERTIES INSPECTED B	PROPERTIES INFESTED C	PROPERTIES TRAPPED D	TRAPS IN USE E	TRAP SERVICINGS F	PROPERTIES INFESTED G	FLIES CAUGHT* H			
Arizona	246	0	33	179	4,178	0	0	0	0	0
California	48,873	0	1,836	4,483	168,658	0	0	199,670	32,099	0
TOTAL FROM JULY 1	49,119	0	1,869	4,662	172,836	0	0	199,670	32,099	0

*INDICATE BY G IN PARENTHESIS WHEN FLIES ARE GRAVID.

**EQUIVALENT OF 70 POUND BOX

SUMMARY OF ASSOCIATED ACTIVITIES

Mexican Fruit Fly Control

Fiscal Year 1959

State	Public Meetings Attended	Presentations					Feature & News Stories*	Extent These Aids Were Used				Special Reports
		Talks	Slides	Films	Radio	TV		Exhibits	Bul.*	Cir.*	Infest. Maps & Posters	
Arizona	1	1										
California									250	400		
Total	1	1							250	400		

* Written by Federal personnel for release direct or through cooperators.

EXPENDITURES BY SOURCE AND ACTIVITY

Mexican Fruit Fly Control

Fiscal Year 1959

	1	2	3	4	5	6	7	8
Source of Cash & Equivalent*	Planning & Direction	Technical Assistance	Survey	Control	Regulatory	Methods Improvement	Other	Total
Plant Pest Control Division	$ 7,250	$	$ 46,100	$ 9,300	$	$	$	$ 62,650
Other Organizations (Name)								
Calif. State Dept. Agric.	9,000	1,000	40,000	40,000				90,000
Subtotal Other Organizations	9,000	1,000	40,000	40,000				90,000
Total (of PPC & Other)	16,250	1,000	86,100	49,300				152,650
Contributed Services**								
Ariz. Comm. Agric. & Hort.			600					600
Calif. State Dept. Agric.	3,400				15,500			18,900
Calif. County Depts. Agric.	2,000		18,000					20,000
Total	5,400		18,600		15,500			39,500
Grand Total	$ 21,650	$ 1,000	$104,700	$49,300	$ 15,500	$	$	$192,150

* Limited to direct appropriation, allotments from other sources, services and supplies for which there is an actual cash expenditure.

** Limited to services incidental to other activities for which only an estimated value is available.

COOPERATIVE AID RECEIVED

Mexican Fruit Fly Control

Fiscal Year 1959

	1	2	3	4	5	6	7	8
	Cash and Equivalent Aid*							
State and Source of Aid	Cash	Personal Services	Equipment & Supplies	Space	Total of Cash & Equivalent	Intangible Service Estimates**	Source Grand Total	Remarks
	$	$	$	$	$	$	$	
Arizona						600	600	
California		50,000	40,000		90,000	18,900	108,900	
California Cos.						20,000	20,000	
Total This Period	$	$ 50,000	$ 40,000	$	$ 90,000	$ 39,500	$129,500	

* Limited to direct appropriation, allotments from other sources, services and supplies for which there is an actual cash expenditure.

** Limited to services incidental to other activities for which only an estimated value is available.

MORMON CRICKET CONTROL

MORMON CRICKET CONTROL

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PROGRAM ANNUAL REPORT
1959 FISCAL YEAR

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UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
WESTERN REGION

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UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
WESTERN REGION

ANNUAL PROGRAM REPORT

MORMON CRICKET

July 1, 1958 - June 30, 1959

In cooperation with
County, State, and Federal Agencies,
and with Organized Rancher Groups

December 1959
Oakland, California

Jim R. Dutton
Regional Supervisor

TABLE OF CONTENTS

HIGHLIGHTS OF YEAR'S PROGRAM ACTIVITY

Accomplishment for the Fiscal Year

Nearly 40,000 acres of rangeland were baited to control Mormon crickets in five states. More than 90 percent of the bait was applied by airplane. Ranchers baited or sprayed limited areas in Oregon and Montana, using materials procured by them. In Wyoming bait furnished by the Division and State was spread by landowners on nearly 2600 acres. Federally managed lands made up a majority of those treated. Details of accomplishment for the year are shown in this report in tables and in the control map.

Major Deviation from Work Plan

Deviation from planned work was probably normal. An increase was necessary in Washington County, Idaho, and most of the planned for work in Wyoming was not done. Crickets did not appear in some areas where expected, and in the largest Wyoming area, landowner interest in control was lacking because of light infestations. Early plans were made in Montana to control these insects in Sanders County, but at the last minute the farmers decided to treat only areas of good grass and heavy infestation, using dieldrin purchased and applied by themselves.

Status of Program at Close of Year

In Idaho, there remained 30,000 acres in Adams County for treatment in July. In remaining states only scattered, non-economic infestations of crickets were known to remain at the close of the fiscal year. Hatch and survival of crickets in Montana and Wyoming were the lightest in several years. Montana's two to four hundred thousand acreage of economic populations, prevalent for several years, has receded to almost nothing. Enough bait to supply the foreseeable needs for fiscal year 1960 is in storage in Nevada and Wyoming. If unanticipated infestations requiring control should develop in other states, bait needs may be supplied from those sources.

PROGRAM ACTIVITY DURING FISCAL YEAR

Planning and Direction

How planned and directed

Program activities were planned by Division personnel in cooperation with State officials and with the assistance

of representatives from cooperating counties and from other federal agencies. Field direction of the program was usually the responsibility of Division supervisors although in a few instances State personnel shared this function.

Technical Assistance

Mormon cricket control is usually undertaken on an organized basis, and there is little or no call for technical assistance to individuals. Division supervisors and State and Extension entomologists do advise ranchers and others with respect to cricket infestations and control needs. This occurred this year near Hot Springs, Montana.

Survey

Procedures and techniques used

Nymphal and adult surveys are made to locate and evaluate Mormon cricket infestations. Adult surveys are made in the summer and fall and are used as a basis in planning work for the next season. Nymphal surveys are made in the spring and serve as the final determination as to the advisability of control. Standard techniques are followed in making both surveys. Essentially they consist of recording population densities and locations.

Accomplishments

Surveys were made in Idaho, Montana, Nevada, Oregon, Utah, Washington, and Wyoming. All known "carryover" areas were inspected and the findings recorded. Results of surveys are shown in the survey map.

Statement of crop losses

Wheat and alfalfa valued at $5,000 were damaged in Sanders County, Montana. Savings there were estimated to be $10,000. Losses and savings in Idaho were estimated to be $103,750 and $102,700, respectively. In Utah, all economic infestations were eliminated before damage resulted. In other states of the Region, losses were negligible.

Eradication or Control

Procedures or techniques used

Aerial application of bait was the principal control means. Bait was composed of steamed rolled wheat impregnated with oil-aldrin solution, applied at the rate of two ounces of aldrin and two quarts of oil per 100 pounds of wheat. This bait was spread at rates varying from five to ten pounds per acre, depending upon the intensity of infestation. The bait is equally effective in controlling several species of grasshoppers that oftentimes concurrently inhabit Mormon cricket infested areas. Bait may be applied with ground equipment or by hand in areas where only small infestations are encountered.

Accomplishments

Aerial baiting was done on 15,699 acres in Idaho, 10,384 acres in Montana, and 8,542 acres in Utah. Both the bait and the application were contracted for by Agricultural Research Service. Control was especially rapid and effective in Utah. Slower but fully satisfactory kills were obtained in Montana and Idaho. Details of control accomplishments appear in this report in tables and in the control map.

Regulatory

Does not apply

Methods Improvement

The bait used for Mormon cricket control is fully effective. Application methods are sound, but the application devices in some contractors' planes need to be improved. It is particularly desirable that the baiting mechanism be fully mechanical so that personnel other than pilots will not have to ride in baiting planes to keep the flow of bait constant.

Other

Cooperation received during fiscal year

Major contributions

In Idaho, the State and counties provided cash to assist in the program. In all states where work

was done on federal lands, the other federal agencies contributed to the effort by storing bait, scouting, or by furnishing some equipment. In Wyoming, Goshen and Natrona Counties each contributed storage space for bait. The program was so limited in many states that there was little call for major cooperative contributions.

Cooperative work needing strengthening

In some areas it is believed that closer liaison with other federal agencies should be maintained. A closer working arrangement with the Extension Service is thought to be desirable in Wyoming.

Associated activities and services

Use was made of program aids such as slides, maps, and news articles to inform the public about Mormon cricket infestation potentialities and control problems. These activities are shown in tabular form in this report.

RECOMMENDATIONS FOR THE COMING YEAR

Survey

It is suggested that increased attention be given to making surveys for Mormon crickets to assure that no severe infestations will be likely to develop without our having knowledge of them.

Control

Attention to incipient infestations is important if we are to prevent outbreaks of these insects. No change in the bait formula or baiting procedure is thought to be necessary.

Regulatory

Does not apply

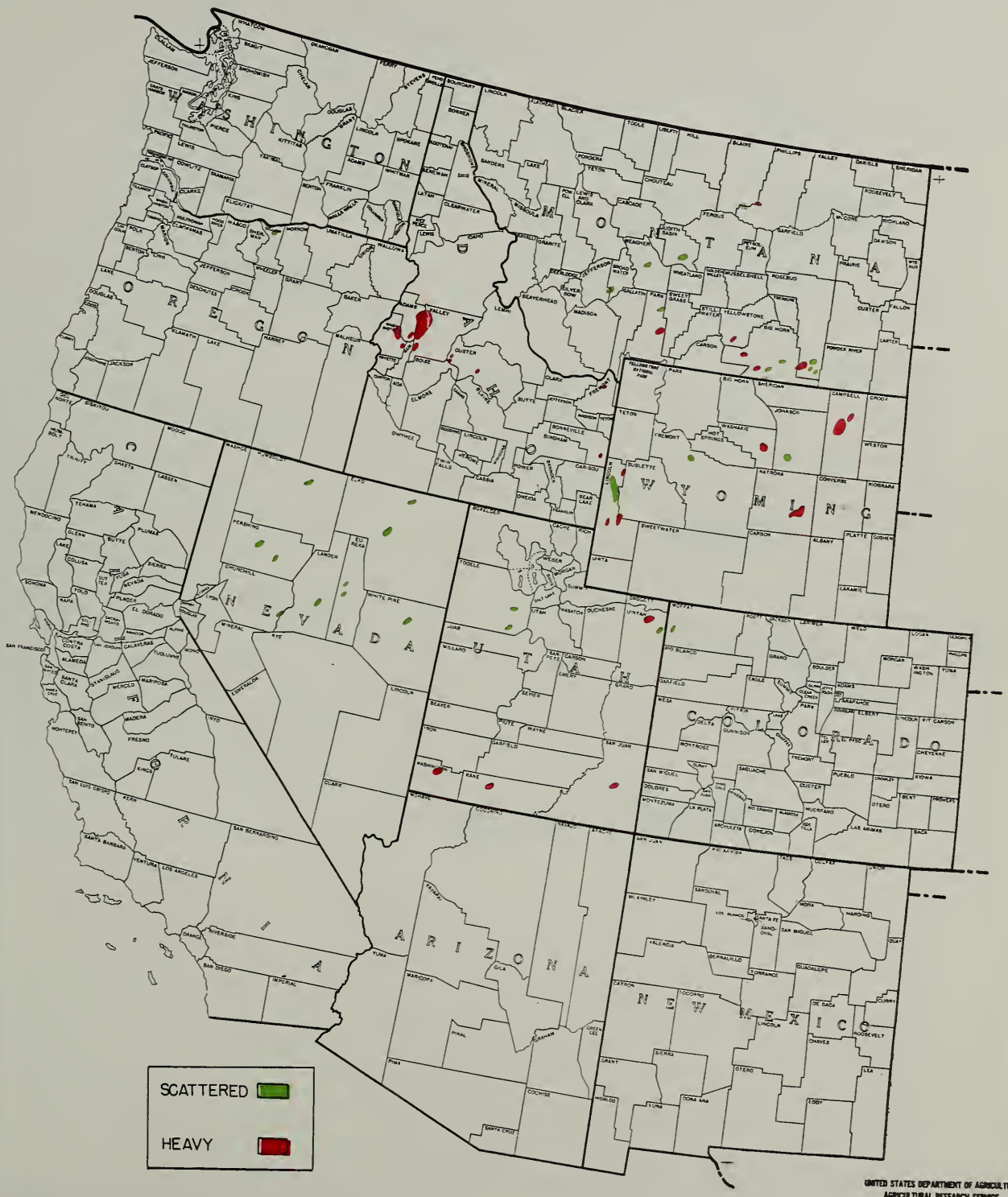
Methods Improvement

No recommendations

Other

We feel that an outstanding weakness in the program is that we have no way in which to prevent competitive bidders from bidding below a profitable level. Unreasonably low bids frequently result in unsatisfactory work. Because funds are provided by all cooperators, we, as the contracting agency, are obligated to award a contract to the lowest qualified bidder even though his bid may be below that which would permit a reasonable profit.

MORMON CRICKET ADULT SURVEY - FALL 1958

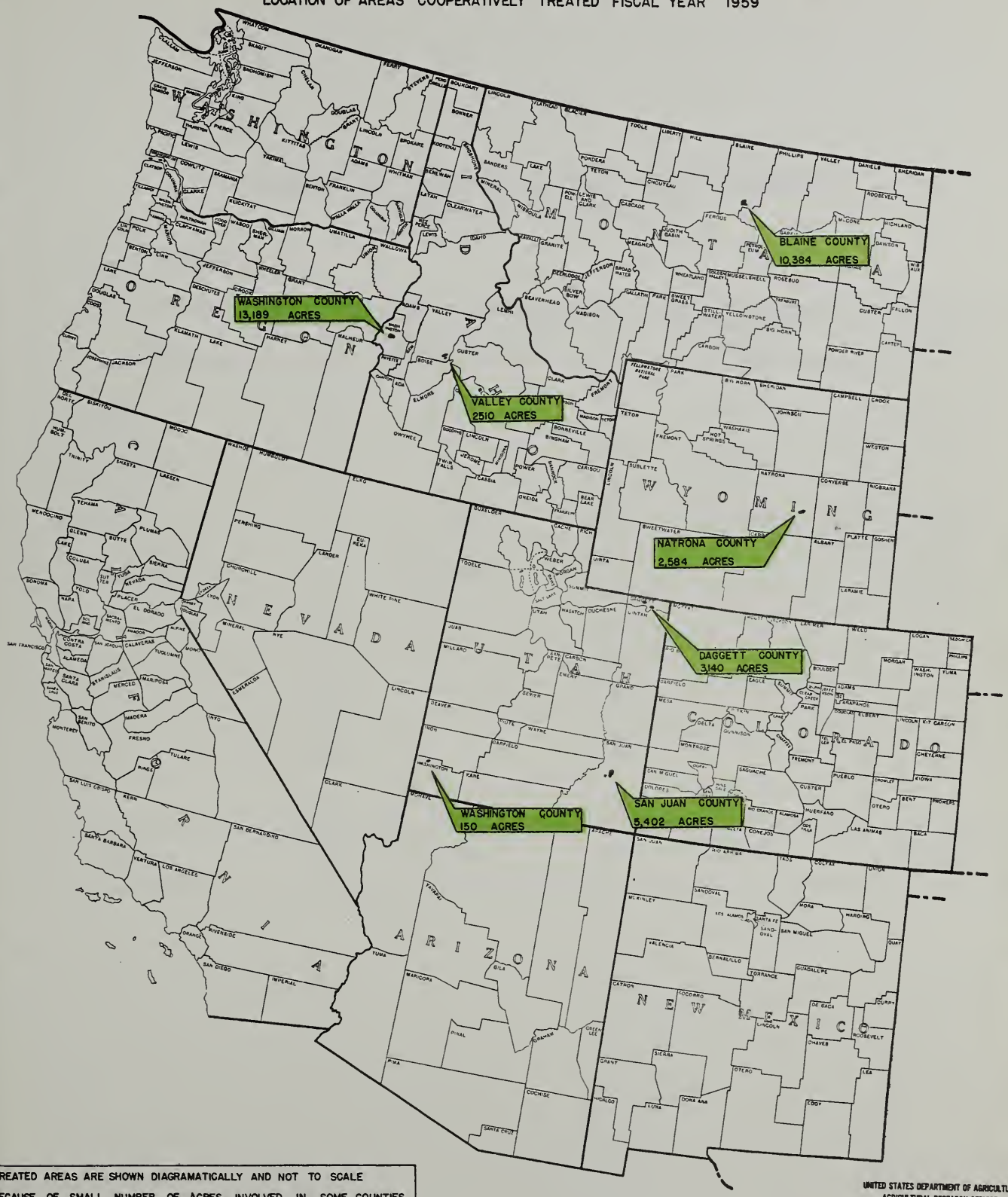


UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
WESTERN REGION

GPO 977221

MORMON CRICKET CONTROL -- RANGELAND

LOCATION OF AREAS COOPERATIVELY TREATED FISCAL YEAR 1959



TREATED AREAS ARE SHOWN DIAGRAMATICALLY AND NOT TO SCALE BECAUSE OF SMALL NUMBER OF ACRES INVOLVED IN SOME COUNTIES. ACTUAL TREATED ACREAGES ARE SHOWN ON LEGENDS.

TOTAL ACRES TREATED — 37,359

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
WESTERN REGION
OCTOBER 10, 1959

GPO 979176

COOPERATIVE RANGELAND CONTROL ACCOMPLISHMENTS
DURING FISCAL YEAR 1959

Mormon Cricket

State	Private and State Lands (Acres)	Federal Lands (Acres)	Total Acreage
Idaho	2,000	13,699	15,699
Montana		10,384	10,384
Utah	150	8,542	8,692
Wyoming	2,584		2,584
Total	4,734	32,625	37,359

JUNE STATISTICAL REPORT

MORMON CRICKET

Including Cumulative Control Data for Fiscal Year 1959

Region: Western

Prepared by: WPPCR

Period (Designate: Month, 1-15, 16-31, or 1-31): June 1-30, 1959 (Final Report)

Date prepared: 9/14/59

COUNTY OR LOCATION A	STATUS First of Period B	INFESTED ACRES* State & Private C	INFESTED ACRES* Public Domain** D	INFESTED ACRES* Total Acreage E	ACRES Scheduled for Treatment F	ACREAGE TREATED State & Private G	ACREAGE TREATED Public Domain** H	ACREAGE TREATED Total Acres I	STATUS End of Period J
Colorado	5,000	0	5,000	5,000	0	0	0	0	5,000
Idaho	70,500	6,000	72,199*	78,199	50,699	2,000	13,699	15,699	62,500
Montana	190,000	75,000	115,000	190,000	10,384	0	10,384	10,384	179,616
Nevada	10,000	0	10,000	10,000	0	0	0	0	10,000
Oregon	0	500	0	500	0	0	0	0	500
Utah	11,150	0	8,542	8,542	8,542	0	8,542	8,542	0
Wyoming	87,500	11,164	1,800	12,964	2,584	2,584	0	2,584	10,380
Total This Period	374,150	92,664	212,541	305,205	72,209	4,584	32,625	37,209	267,996
Total From July 1	XXX	XXX	XXX	XXX	XXX	4,584	32,775	37,359	XXX

*Revised due to increase in scheduled acreage treated in Valley County above amount initially found infested.

*Any minus figure must be explained.

**Identify ownership by Department, i.e., BLM, Forest Service, etc.

PPC 7-11
(Feb.-58)

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Service
Plant Pest Control Division

SUMMARY OF ASSOCIATED ACTIVITIES

Mormon Cricket

Fiscal Year 1959

Area	Public Meetings Attended	Presentations					Feature & News Stories*	Extent These Aids Were Used				Special Reports
		Talks	Slides	Films	Radio	TV		Exhibits	Bul.*	Cir.*	Infest.Map & Posters	
Idaho	4						1					
Montana	2	2										
Nevada	5						1			2	10	2
Oregon											5	2
Utah	6	4	3				5					
Washington											5	2
Wyoming											60	
Total	17	6	3				7			2	80	6

*Written by Federal personnel for release direct or through cooperators.

COOPERATIVE RANGELAND CONTROL OPERATIONS
ACREAGES CONTROLLED - AND COSTS

Mormon Cricket

Fiscal Year 1959

State and Location	Period of Control Operations	Acreage Baited		Total Acres Treated	Costs			Total Cost	Average Cost Per Acre
		Contract Aircraft	Ground Equipment		States, Counties, & Landowners	Other Co-operating Fed. Agcys.	Plant Pest Control Division		
Idaho									
Valley Co.	6/25-7/25	2,510		2,510	$ 289	$	$2,147	$2,436	$
Washington Co.	6/25-7/25	13,189		13,189	3,366		7,082	10,448	
Total		15,699		15,699	3,655		9,229	12,884	0.8206
Montana									
Blaine Co.	6/25-29	10,384		10,384		247	8,178	8,425	0.8105
Utah									
San Juan Co.	6/11-14	5,402		5,402			5,542	5,542	
Daggett Co.	6/23-24	3,140		3,140	24	25	3,164	3,213	
Washington Co.			150	150	89		65	154	
Total		8,542	150	8,692	113	25	877	8,909	$1.02
Wyoming									
Natrona Co.	6/15-30		2,584	2,584	612		346	958	0.37
Grand Total		34,625	2,734	37,359	$4,380	$ 272	$26,524	$31,176	$0.8345

EXPENDITURES BY SOURCE AND ACTIVITY

Mormon Cricket

Fiscal Year 1959

Source of Cash & Equivalent*	1 Planning & Direction	2 Technical Assistance	3 Survey	4 Control	5 Regulatory	6 Methods Improvement	7 Other	8 Total
Plant Pest Control Division	$6,380	$3,665	$12,310	$30,986		$1,316	$2,213	$56,870
Other Organizations (Name)								
States & State Depts. Agric.	1,298	540	985	2,936		100	500	6,359
Other Federal	160	120	382	247				909
Ranchers			470	230			82	782
Counties				1,000				1,000
Subtotal-Other Organizations	1,458	660	1,837	4,413		100	582	9,050
Total(PPC & Other)	7,838	4,325	14,147	35,399		1,416	2,795	65,920
Contributed Services**								
U.S. Forest Service				440			125	565
BLM				250				250
Idaho Extension	50	150						200
Ranchers				721			60	781
Total Contributed Svcs.	50	150		1,411			185	1,796
Grand Total	$7,888	$4,475	$14,147	$36,810		$1,416	$2,980	$67,716

* Limited to direct appropriation, allotments from other sources, services and supplies for which there is an actual cash expenditure.

** Limited to services incidental to other activities for which only an estimated value is available.

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UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
CENTRAL REGION

ANNUAL PROGRAM REPORT

PEACH DISEASES

July 1, 1958 - June 30, 1959

In Cooperation With Other
Federal, State, County, and Local Agencies

November 13, 1959
Minneapolis, Minnesota

R. O. Bulger
Regional Supervisor

TABLE OF CONTENTS

I. HIGHLIGHTS OF YEAR'S PROGRAM ACTIVITIES

A. Accomplishments for the fiscal year

Peach orchards in Dunklin County, Missouri, were inspected for phony peach, and two infected trees were found and destroyed.

Peach mosaic has not been found in the Central Region, but Stark's Nursery at Louisiana, Missouri, and the Neosho Nursery at Neosho, Missouri, were inspected. That portion of Stark's Nursery which is on the Illinois side of the Mississippi River was also inspected.

B. Major deviation from work plan

There was no major deviation from the work plan.

C. Status of program at close of year

No inspections for the phony peach disease were made in Illinois and Kentucky this fiscal year. Johnson, Massac, Pulaski, and Union Counties in Illinois had 17 diseased trees destroyed in fiscal year 1957. Kentucky has had no phony peach disease reported since 1939.

Peach mosaic inspections were carried on in Neosho and Louisiana, Missouri, areas and across the river from the latter site in Illinois. No evidence of the disease was observed. No inspections were made for this disease in Kentucky.

II. PROGRAM ACTIVITY DURING FISCAL YEAR

A. Planning and direction

The planning and direction of the two peach disease programs was the joint responsibility of the State Departments of Agriculture and the Plant Pest Control Division in the three-state area.

B. Technical assistance

Program personnel provided peach growers with essential information regarding peach diseases. They also inspected orchards and supervised the removal of infected trees.

Cooperating personnel provided technical assistance to the program by supplying information concerning the diseases, made laboratory facilities available for specimen examination, if needed, and assisted with the inspection of orchards and nurseries.

C. Survey

Peach orchards were inspected for the phony disease during October by a crew of trained men. The men traveled through the orchards checking each suspicious tree to see if symptoms of phony disease were present.

Peach mosaic inspections were made in the spring as soon as the trees leafed out. A crew previously trained in this work made the inspection.

A total of 41,117 peach trees in 31 Dunklin County, Missouri, orchards were inspected during the fiscal year for the phony peach disease. Two trees were found infected with phony peach during the survey.

At Stark's Nursery, located at Louisiana, in Pike County, Missouri, a total of 524,804 trees were inspected for peach mosaic. A total of 16,000 trees was also inspected for this disease at the Neosho Nursery, Neosho, Newton County, Missouri.

The peach mosaic survey was negative.

D. Eradication or control

Peach trees infected with the phony disease were cut down, the stumps removed, and all wood piled and burned.

Two phony trees were destroyed.

E. Regulatory

Counties in which the phony peach disease has been found were placed under regulation by the respective states. They are under regulation for a three-year period unless a subsequent survey shows that diseased trees are still present.

No states in this Region were under regulation for peach mosaic this fiscal year.

No new counties were placed under regulation for the phony disease. Dunklin County, Missouri, and Jackson, Massac, Pulaski, and Union Counties in Illinois were under regulation at the beginning of the fiscal year.

Regulatory measures are not applicable to peach mosaic unless the disease is found in the Region.

F. Methods improvement

Not applicable.

G. Other

The State Department of Agriculture in Missouri assisted the Plant Pest Control Division by preparing maps and other historical information of the regulated areas. They also provided personnel for the two surveys.

III. RECOMMENDATIONS FOR COMING YEAR

A. Survey

The survey for phony peach should be extended in Illinois and Missouri. More surveyors should be trained for this work.

B. Eradication or control

As only a few infested trees have been found each year, the present methods of control are adequate.

C. Regulatory

The counties in Illinois and Missouri currently under State regulation should so remain during the next fiscal year.

D. Methods improvement

A special training session should be held in the South in cooperation with the Southern Region so that personnel from this region might see trees infected with phony peach disease and also learn how to test the roots of such trees. More personnel in Missouri, Illinois, and Kentucky should be trained in phony peach disease survey.

E. Associated activities

No recommendations suggested.

Peach Diseases - Accomplishments Fiscal Year 1959

PEACH MOSAIC

State	Properties			Trees			
	Inspected		Diseased	Inspected		Diseased	Removed
	Initial	Repeat		Initial	Repeat		
Missouri	2	0	0	524,804	0	0	0

PHONY PEACH

State	Properties		Trees		
	Inspected	Diseased	Inspected	Diseased	Removed
Missouri	31	2	41,117	2	2

Summary of Associated Activities - Fiscal Year 1959 - Peach Diseases

State	Public Meetings Attended	Presentations					Feature & News Stories*	Extent These Aids Were Used**				Other
		Talks	Slides	Films	Radio	TV		Exhibits	Bulletins*	Circulars*	Infest. Maps & Posters	
FEDERAL:												
Missouri	0	0	0	0	0	0	0	0	0	10	0	0
COOPERATORS:												
None.												
Totals	0	0	0	0	0	0	0	0	0	10	0	0

*Written by Federal personnel for release direct or through cooperators.
**Conservative estimate.

Peach Diseases - Cooperative Aid Received - Fiscal Year 1959

Project State	Cash & Equivalent Aid*				Total of Cash & Equiv.*	Intangible Service Estimate**	Source Grand Total
	Cash	Personal Services	Equipment & Supplies	Space			
Illinois	0	0	0	0	0	$200.00	$200.00
Kentucky	0	0	0	0	0	$300,00	$300.00
Missouri	0	$800.00	$100.00	0	$900.00	$500.00	$1,400.00
Totals	0	$800.00	$100.00	0	$900.00	$1,000.00	$1,900.00

*Limited to direct appropriation, allotments from other sources, services and supplies for which there is a definite replacement value.

**Limited to services incidental to other activities for which only an estimated value is available.

Peach Diseases - Expenditures by Source and by Activity - Fiscal Year 1959

State	Planning & Direction	Technical Assistance	Survey	Control	Regulatory	Methods Improvement	Other	Total
CASH & EQUIV.:								
Plant Pest Control Division	$200.00	$100.00	$1,100.00	700.00	0	0	0	$2,100.00
Other Organizations								
Missouri	0	0	500.00	400.00	0	0	0	900.00
CONTRIBUTED SERVICES**								
Illinois	0	0	200.00	0	0	0	0	200.00
Kentucky	0	0	300.00	0	0	0	0	300.00
Missouri	200.00	300.00	0	0	0	0	0	500.00
Subtotals	$ 200.00	$300.00	$500.00	0	0	0	0	$1,000.00
GRAND TOTALS	$ 400.00	$400.00	$2,100.00	$1100.00	0	0	0	$4,000.00

*Limited to direct appropriation, allotments from other sources, services and supplies for which there is a definite replacement value.
**Limited to services incidental to other activities for which only an estimated value is available.

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
SOUTHERN REGION

ANNUAL PROGRAM REPORT

PEACH MOSAIC

July 1, 1958 - June 30, 1959

In cooperation with other
Federal, State, County, and Local Agencies

November 13, 1959
Gulfport, Mississippi

C. C. Fancher
Regional Supervisor

I. Highlights of Year's Program Activity

A. Accomplishment for the fiscal year

Peach Mosaic inspections were made in Arkansas, Oklahoma, and Texas. In Texas, inspection was made in the 10 regulated counties and in 9 counties not known to be infested. The inspection in Oklahoma was made in 9 counties, but primary attention was given to certification of nursery stock in Bryan County. The Arkansas inspection was in the Nashville section and was carried out along with the Phony Peach work in that locality.

B. Major deviation from Work Plan

None

C. Status of Program at close of fiscal year

In Arkansas light infestations were found in the Nashville area. Oklahoma reports that the infestation status is virtually the same as last year. In Texas light infestations were found in Camp, Cherokee, Smith, and Upshur Counties.

II. Program Activity during fiscal year

A. Planning and Direction

1. How planned and directed

Before the inspection season began, meetings were held between the Division and cooperating state officials and plans made as to the areas to be inspected and personnel to be furnished by each agency. It was decided to confine inspection to nurseries and budwood sources and their environs, and the commercial orchards in the principal peach growing sections. All inspections were made by Federal and State inspectors located within the areas to be worked.

B. Technical Assistance

Technical assistance and information to nurserymen and growers is provided by contacts with Federal and State inspectors and the distribution of bulletins.

C. Survey

1. Procedures and techniques used

Nursery and orchard owners are contacted before the survey is made. Crews of Division and State inspectors, usually working two to a crew, inspect nurseries, budwood sources and their 1-mile environs. Jeeps are used as much as possible in inspecting the larger orchards, while nurseries and the smaller plantings are walked out.

2. Accomplishments

Three infected trees were found in Howard County, Arkansas; 66 in Smith County, Texas; and 11 in Bryan County, Oklahoma.

3. Statement or table of pest damage

The value of the trees destroyed and loss of their potential production constitutes the pest damage.

D. Eradication or Control

1. Procedures or techniques used.

Mosaic infected trees are delimbed when found and the stumps removed later by orchard owners.

2. Accomplishments

All infected trees found were removed.

E. Regulatory

1. Procedures or techniques used.

The objective of the regulatory phase of the program is to prevent the spread of the disease to noninfested areas, and to other counties and states.

The disease can be spread by infected nursery stock and budwood, therefore, all nurseries and budwood sources are inspected, including environs of 1 mile, and any infected trees found are removed.

2. Accomplishments

In the regulated area 13 nurseries with 236,400 trees and 15 budwood sources with 445,026 trees were inspected, none of which were found infected.

Outside the regulated area, 33 nurseries growing 1,497,270 trees and 15 budwood sources with 445,026 trees were inspected without finding any infection.

F. Methods Improvement

1. Work Performed

No change from last season

2. Accomplishments

Use of jeeps made more rapid inspection possible.

G. Other

1. Cooperation received during fiscal year

Cooperating state agencies assist in the planning, and they furnish an equitable number of inspectors. Growers and nurserymen remove diseased trees.

2. Associated activities and services

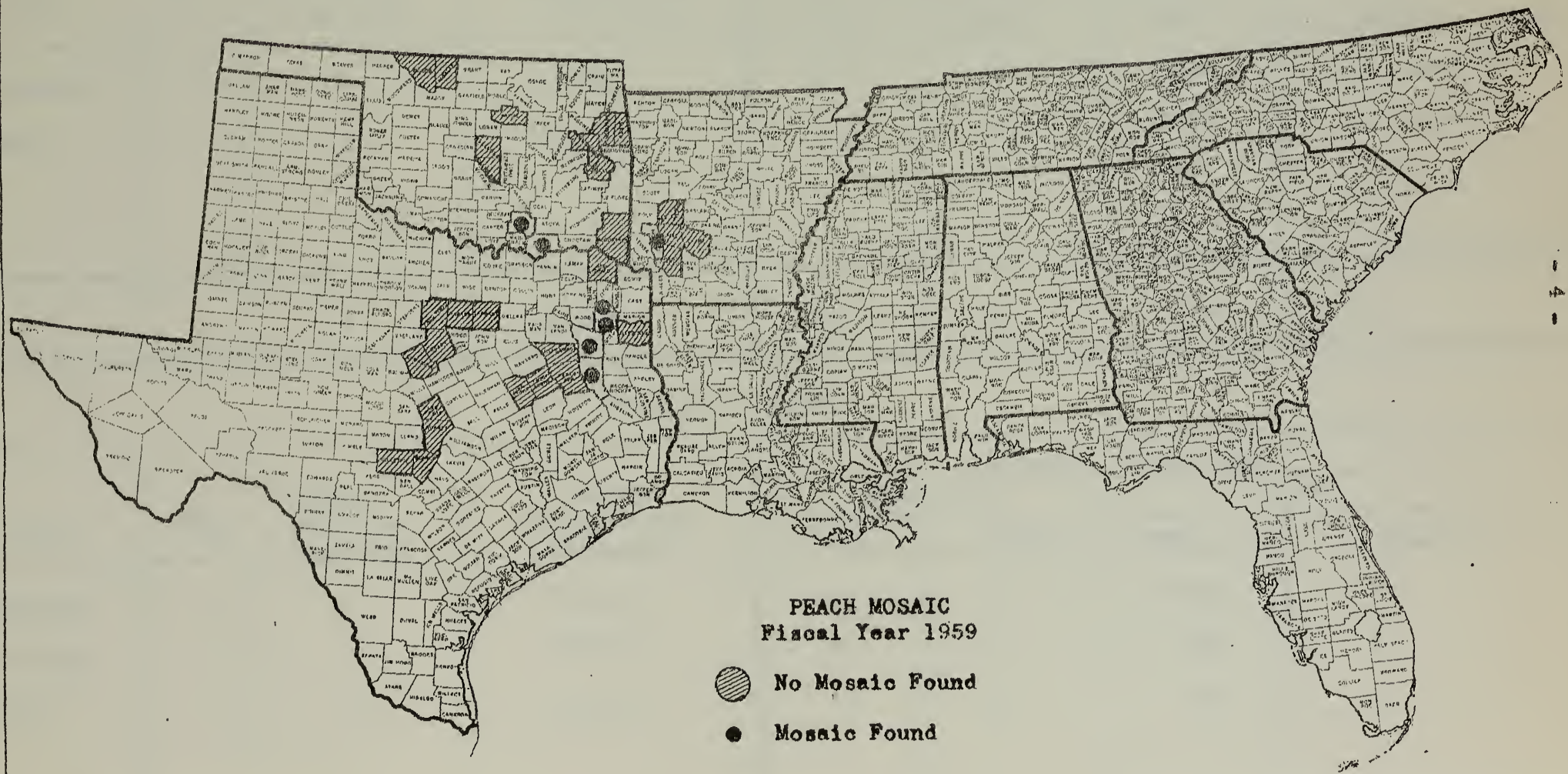
The State Departments of Agriculture and State Plant Boards keep nurserymen and growers advised as to regulations. Enforcement of the quarantine is under state authority.

III. Recommendations for coming year

Survey should be continued as in the past, with the possibility of expansion to cover all peach growing sections in infected states.

SOUTHERN REGION

PLANT PEST CONTROL DIVISION



PEACH MOSAIC NURSERY INSPECTIONS
Regulated Area

State	No. Cos.	Number Nurseries Inspected	Number Nursery Trees Inspected	Environs Inspections			
				Properties		Trees	
				Insp.	Infest.	Insp.	Infect.
Oklahoma	1	2	65,200	362	8	1734	11 removed
Texas	5	11	171,200	153	3	3978	10 removed
2	6	13	236,400	515	11	5712	21

Non-Regulated Area

State	No. Cos.	Number Nurseries Inspected	Number Nursery Trees Inspected	Environs Inspections			
				Properties		Trees	
				Insp.	Infest.	Insp.	Infect.
Arkansas	3	21	817,500	41	0	1652	0
Oklahoma	8	9	488,270	65	0	398	0
Texas	7	3	191,500	9	0	343	0
3	18	33	1,497,270	115	0	2393	0

PEACH MOSAIC

Region: Southern

Prepared by:

Period (Designate Month, 1-15, 16-31, or 1-31): Fiscal Year 1959

Date prepared:

STATE AND COUNTY A	PROPERTIES Inspected Initial B	PROPERTIES Inspected Repeat C	PROPERTIES Diseased D	TREES Inspected Initial E	TREES Inspected Repeat F	TREES Diseased G	TREES Removed H
Arkansas	101	0	3	297,991	0	3	3
Oklahoma	428	0	8	5,305	0	11	11
Texas	415	0	29	393,773	0	66	66
Total this period							
Total from July 1, 1958	944	0	40	697,069	0	80	80

PPC 7-17
(Feb.-58)

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Service
Plant Pest Control Division

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Service
Plant Pest Control Division

Program Peach Mosaic

SUMMARY OF ASSOCIATED ACTIVITIES

Prepared by:

Region Southern

Fiscal year 1959

Area	Public Meetings Attended	Presentations					Feature & News Stories	Extent These Aids Were Used				Special Reports
		Talks	Slides	Films	Radio	TV		Exhibits	Bul.	Cir.	Infest. Maps & Posters	
Texas	6	2	12									
Total	6	2	12									

PEACH MOSAIC

• • •

PROGRAM ANNUAL REPORT
1959 FISCAL YEAR

• • •

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
WESTERN REGION

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UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
WESTERN REGION

ANNUAL PROGRAM REPORT

PEACH MOSAIC

July 1, 1958 - June 30, 1959

In cooperation with
County, State, Federal, and Local Agencies

December 1, 1959
Oakland, California

Jim R. Dutton
Regional Supervisor

TABLE OF CONTENTS

HIGHLIGHTS OF YEAR'S PROGRAM ACTIVITY

Accomplishment for the Fiscal Year

There have been two consecutive years of low disease incidence in the California peach mosaic control area. A total of 314 mosaic infected trees was found and removed; whereas, in 1958 there were 294 trees found and removed. In the four infected counties, 241,881 trees were inspected, and a second inspection was made of 91,627 trees. In the San Joaquin Valley, 148,671 trees were inspected in five counties. No trace of peach mosaic was found.

Peach mosaic infection reached its lowest point in Mesa County, Colorado in the 25-year history of the program. For the fiscal year, 845,057 trees on 1,335 properties were inspected, revealing 1,061 mosaic trees on 316 properties. All mosaic trees found were removed. Peak occurrence of mosaic in Mesa County involved 32,163 trees in 1935. For the current fiscal year only two mosaic trees were found in Delta County, Colorado.

In Utah inspections were made in Grand and San Juan Counties. On 2 inspections in Grand County, 8 mosaic trees were found, 6 on the first inspection and 2 on the second. There were no mosaic trees found in San Juan County, a county which was released from regulation several years ago.

Major Deviation from Work Plan

The work plan was carried out with one exception. There are no commercial orchards remaining in the Elsinore-Temecula area of Riverside County, California; therefore, no inspections were made in that area.

Status of Program at Close of Year

This annual work program was completed June 30. It is a continuing program, which requires yearly inspection and reinspection of peach orchards and nurseries.

PROGRAM ACTIVITY DURING FISCAL YEAR

Planning and Direction

How planned and directed

In planning the program activities, a tentative annual work program was prepared by local, state, and federal

field supervisors. This tentative plan was then discussed at a meeting of the cooperating agencies, at which time modifications were made to satisfy requirements of all cooperators. The local, state, and federal field supervisors were responsible for the planned work and for making periodic progress reports to the cooperating agencies.

Technical Assistance

Technical assistance provided to farmers and others by program personnel.

Trained inspectors searched through peach orchards and adjacent dooryard plantings to find and diagnose peach mosaic infection in individual trees. Pathologists were available to confirm difficult or doubtful cases. This service was provided to commercial orchardists and to anyone having peach trees--regardless of number. The objective was to provide growers with the best available detection and diagnostic advice and service.

Technical assistance provided to program by cooperating agencies

A close working relationship was maintained with USDA Entomology Research and Pathology Research agencies. These units provided test trees and made bud transmission tests at the request of the control supervisors. Other long-range programs of these agencies dealt with vector control studies in which systemic acaricides were used; studies of various strains of the peach mosaic virus and studies to test susceptibility or tolerance of new peach varieties were made. This type of technical assistance was essential to the usccess of the control program.

Survey

Procedures or techniques used

Field

Annual tree-by-tree inspections were made of commercial orchards and adjacent properties in the infected control areas. Trees showing visual leaf symptoms of peach mosaic disease were marked and removed. Orchards in which disease was found were inspected a second time about one month following the first inspection. Regular annual early-spring inspection, followed by approved eradication measures, was and is necessary to maintain effective disease control.

Statement of Crop Losses

Value of peach crop, orchard run, is basically $10.00 per tree; therefore, each tree destroyed means a $10.00 per year loss to the orchardist. On that basis, estimated losses for the fiscal year were:

California	$ 3,150
Colorado	10,630
Utah	80
	$13,860

Control

Procedures or techniques used

Peach mosaic is a virus disease. Control measures consist of complete destruction of infected host plants. In the control of peach mosaic disease, infected trees are delimbed. The stump should be removed promptly; however, it is permissible to treat the stump with either ammate or Esteron 245. When ammate is used, the trunk is girdled just above the ground level, and the ammate crystals applied in the girdle. Esteron 245 is used at the rate of 1-3 with light diesel oil, and the limb cuts at the trunk are painted with this material. Natural spread of peach mosaic disease is by the microscopic mite *Eriophyes insidious*. This mite lives under the bud scales and is seldom found elsewhere on the host plant. It is believed that the mite is carried from tree to tree by wind currents. The virus may also be spread by man over wide distances through the movement of infected nursery stock or budwood.

Research is investigating various miticides, making field tests to determine their effectiveness in the control of the mite. When an effective miticide is found for the vector of peach mosaic, then another tool will be available for control of this disease.

Accomplishments

Through vigorous annual control programs, the incidence of peach mosaic has been greatly reduced from a high of approximately 6 percent in 1935 to less than one-fifth of 1 percent

in 1959. These control programs have contained the disease in the areas originally found infested and have apparently been successful over the years in eradicating peach mosaic from two counties in California, one in Colorado, and four in Utah. For the period of this report, compared with the fiscal year 1958, there was a slight increase in disease incidence in California and a substantial reduction in both Colorado and Utah. No control work was undertaken in Arizona and New Mexico. All but one Arizona county harbors infected trees, as do all but five counties in New Mexico. Grower cooperation is limited and will not support a cooperative control program in either state.

Regulatory

Procedures or techniques used

Peach mosaic disease is not under Federal regulation. The infected states, except for California, have uniform state quarantines. California has an embargo type quarantine prohibiting the movement of the peach mosaic regulated articles from the regulated area. Present regulatory measures seem to be adequate.

Methods Improvement

This fiscal year in California, several mosaic trees were found and removed on the basis of bud transmission tests. In Colorado it has been proposed that susceptible index grafts be placed in tolerant peach varieties. Application of a mite control systemic miticide may at some future date be of assistance in control of peach mosaic disease.

Other

Cooperation received during fiscal year

A total of 2,712 man days of actual field inspection was furnished by county, state, and Plant Pest Control Division personnel--635 man-days by the counties, 1,115 by the states, and 962 by Plant Pest Control Division. This does not include supervisory personnel time, part of which was furnished by each agency.

Associated activities and services

Twelve public meetings and eight training sessions were conducted. Color slides and films were used along with a discussion of the control program and its objectives. This was followed by field trips to previously selected infected orchards. The several types of mosaic symptoms, as well as other virus symptoms, were discussed and shown to inspectors.

RECOMMENDATIONS FOR COMING YEAR

Survey

Survey should be continued beyond the known infected areas.

Control

It is recommended that the cooperative control activities be continued in the control areas for the fiscal year 1960.

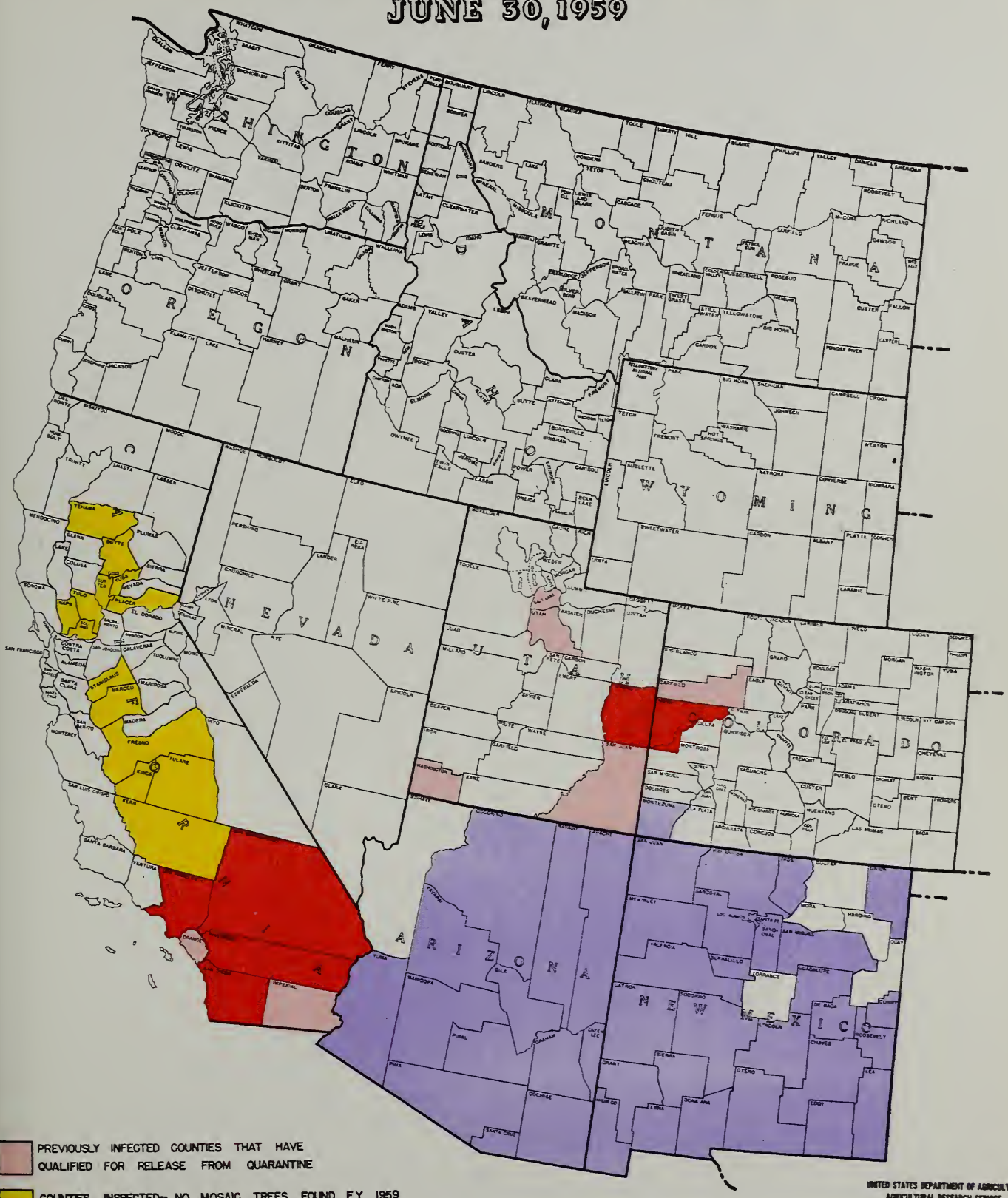
Regulatory

Regulatory procedures appear adequate and should be continued.

Methods Improvement

We recommend the continuation of efforts to develop practical means to control the vector.

PEACH MOSAIC DISEASE CONTROL
JUNE 30, 1959



PREVIOUSLY INFECTED COUNTIES THAT HAVE QUALIFIED FOR RELEASE FROM QUARANTINE

COUNTIES INSPECTED-- NO MOSAIC TREES FOUND F Y 1959

COUNTIES INSPECTED-- MOSAIC TREES FOUND F Y 1959

COUNTIES INFECTED-- NO INSPECTION F Y 1959

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
WESTERN REGION
OCTOBER 1959

GPO 979105

INSPECTION RECORD
STATE SUMMARY

Peach Mosaic

Fiscal Year 1959

States	Counties			Properties		Trees		
	Number Inspected	No.Found Infected	No. Currently Infected	Number Inspected	Number Infected	Number Inspected	Number Infected	No. Infected Trees Removed
California	10	4	4	6,659	161	483,722	314	316
Colorado	2	2	3	1,335	316	845,057	1,061	1,061
New Mexico	0	0	27	0 0	00	0 0	0 0	0 0
Utah	2	1	1	353	6	16,377	8	8
Arizona	0	0	13	0	0	0	0	0
Totals	14	7	48	8,347	483	1,345,156	1,383	1,385
Cumulative Totals From Beginning of Program								
	130	54	48	592,870	32,112	42,434,506	397,690	295,782

BUDWOOD SOURCES AND ENVIRONS INSPECTIONS
REGULATED AREAS

Peach Mosaic

Fiscal Year 1959

STATE	Number of Counties	Total Number of Budwood Sources Inspected	Total Number of Budwood Trees	Number of Budwood Sources with Mosaic in Budwood Block	Number of Mosaic Trees in Budwood Block	Environs Inspection				Mosaic trees Removed by May 15, 1959
						Properties		Trees		
						Total Number Inspected	Number Infected	Total Number Inspected	Number Infected	
California	2	3	915	0	0	324	0	1709	0	0
Colorado	1	1	314	0	0	5	0	758	0	0
Totals	3	4	1229	0	0	329	0	2467	0	0

NURSERY INSPECTION - REGULATED AREAS

Peach Mosaic

Fiscal Year 1959

State	Number Counties Inspected	Number Nurseries Inspected	Number Nursery Trees Inspected	Environs Inspection			
				Properties		Trees	
				Inspected	Infected	Inspected	Infested
California	4	177	11,063	632	2	2,927	2
Colorado	1	1	2,400	5	0	758	0
Totals	5	178	13,463	637	2	3,685	2

NURSERY INSPECTION - OUTSIDE REGULATED AREAS

State	Number Counties Inspected	Number Nurseries Inspected	Number Nursery Trees Inspected	Environs Inspection			
				Properties		Trees	
				Inspected	Infected	Inspected	Infested
California	1	3	295,040	218	0	884	0
Totals	1	3	295,040	218	0	884	0

SUMMARY OF ASSOCIATED ACTIVITIES

Peach Mosaic

Fiscal Year 1959

State	Public Meetings Attended	Presentations					Feature & News Stories*	Extent These Aids Were Used				Special Reports
		Talks	Slides	Films	Radio	TV		Exhibits	Bul.*	Cir.*	Infest.Map & Posters	
California	2	2	2	2	0	0	0	0	25	0	0	1
Colorado	10	6	0	0	0	0	6	2	0	100	2	250
Total	12	8	2	2	0	0	6	2	25	100	2	251

* Written by Federal personnel for release direct or through cooperators.

Peach Mosaic

EXPENDITURES BY SOURCE AND ACTIVITY

Fiscal Year 1959

	1	2	3	4	5	6	7	8
Source of Cash & Equivalent*	Planning & Direction	Technical Assistance	Survey	Control	Regulatory	Methods Improvement	Other	Total
Plant Pest Control Division	$ 8,050	$ 7,075	$ 26,425	$5,500	$ 1,800	$ 21	$ 154	$ 49,025
Other Organizations (Name)								
Calif. Dept. of Agriculture	3,608	2,563	13,578	0	0	0	0	19,749
Colo. Dept. of Agriculture	1,000		7,100	1,900***				10,000
Utah Dept. of Agriculture	50	75	680	64***		52	85	1,006
Subtotal Other Organizations	4,658	2,638	21,358	1,964	0	52	85	30,755
Total (of PPC & Other)	12,708	9,713	47,783	7,464	1,800	73	239	79,780
Contributed Services**								
State Depts. of Agriculture		2,500	50		15,400			17,950
Counties	834		12,200	80	21,350			34,464
Total	834	2,500	12,250	80	36,750			52,414
Grand Total	$13,542	$12,213	$60,033	$7,544	$38,550	$ 73	$239	$132,194

* Limited to direct appropriation, allotments from other sources, services and supplies for which there is an actual cash expenditure.

** Limited to services incidental to other activities for which only an estimated value is available.

*** Includes $800 Delta County; $600 Mesa County, Colorado; Grand County, Utah.

Peach Mosaic COOPERATIVE AID RECEIVED Fiscal Year 1959

	1	2	3	4	5	6	7	8
State and Source of Aid	Cash and Equivalent Aid*				Total of Cash & Equivalent	Intangible Service Estimate**	Source Grand Total	Remarks
	Cash	Personal Services	Equipment & Supplies	Space				
State Depts. of Agric.								
California	$	$19,749	$	$	$ 19,749	$ 15,100	$34,849	
Colorado		10,000			10,000	2,800	12,800	
Utah		869	137		1,006	50	1,056	
Counties								
California						34,384	34,384	
Utah						80	80	
Total	$	$30,618	$137	$	$30,755	$52,414	$83,169	

* Limited to direct appropriation, allotments from other sources, services and supplies for which there is an an actual cash expenditure.

** Limited to services incidental to other activities for which only an estimated value is available.

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
SOUTHERN REGION

ANNUAL PROGRAM REPORT

PHONY PEACH

July 1, 1958 - June 30, 1959

In cooperation with other
Federal, State, County, and Local Agencies

November 13, 1959
Gulfport, Mississippi

C. C. Fancher
Regional Supervisor

I. Highlights of Year's Program Activity

A. Accomplishments for the fiscal year

Proposed peach nursery planting site inspections were made in Alabama, Georgia, South Carolina, and Texas. All nurseries met the requirements of the States' standard Phony Peach Quarantine.

Cooperating Division and State inspectors inspected peach orchards in 6 states during the year. No counties became eligible for release from Phony Peach Quarantine, and no newly infested counties were found.

B. Major deviation from Work Plan

None.

C. Status of Program at close of year

There was a slight reduction in the number of phony infected trees in the 6-state area, and in Georgia there was an appreciable reduction. In fiscal year 1958, infection was .76 percent, and in 1959 fiscal year infection was exactly one-half or .38 percent.

II. Program Activity during fiscal year

A. Planning and direction

1. How planned and directed

All phases of phony disease control in each state are discussed in detail by the Plant Pest Control Division Supervisor in Charge and the officials of the cooperating state plant pest control and regulatory agency. The work is supervised in all instances directly by the District Supervisors, and inspections are made by inspectors furnished by the cooperating agencies.

B. Technical Assistance

1. Technical Assistance provided to farmers and others by program personnel

Orchard owners are kept informed of all new research developments and control results by conversation with Plant Pest Control Division and/or cooperating state inspectors. Special emphasis is placed on fully informing new peach growers of the control program and the necessity for maintaining adequate control measures against this disease, which includes destruction of wild plum thickets.

2. Technical assistance provided to program by cooperating agencies

Plant pathologists, entomologists and horticulturists at the Fort Valley Laboratory keep program personnel informed on all new developments related to control of phony disease.

C. Survey

1. Procedures or techniques used

In the more seriously affected sections of the 6-state phony peach control area, inspections usually begin after fruit is picked, about mid-July, and continue through September. In the lightly infested sections, surveys are made primarily to keep a check on the course the disease may be taking. These inspections or surveys are made in the same way as for orchard inspections. Diagnosis is based on visual symptoms; although, in cases of doubt a chemical test may be made of the roots of the suspected trees. In the visual inspection of orchards, inspectors either walk the orchards or ride in jeeps, and identification is based on a combination of factors including (1) short terminal growth which tends to give the tree a compact appearance with a rather even outline when viewed against the sky, (2) shortened internodes, and (3) flat, dark green leaves.

2. Accomplishments

In the 6-state area where inspections for phony disease were made, 6,297,857 trees on 3,369 properties were inspected; 15,987 phony infected trees were found. All infected trees had been removed by the end of the fiscal year except one in the state of Arkansas which was not removed until after fruit had been harvested.

3. Statement or table of pest damage

The damage caused by this disease each year is, of course, indicated by the number of diseased trees found and removed. This, of course, is an immediate loss to the fruit grower, which extends over a period of three or four years since that length of time is usually required to bring new trees into production.

D. Eradication or Control

1. Procedures or techniques used

Inspectors, either walking or in jeeps, go through the orchards inspecting two or three tree rows on each side,

pointing out the phony infected trees to laborers, which are furnished by the growers, and these affected trees are delimbed. Later the orchard owner removes the stumps with tractors. In delimbing the trees, it is important that all twigs a year or more old be removed since insect vectors are attracted to these twigs in great quantities soon after the sap in the stumps begins to sour.

2. Accomplishments

Cooperation extended to the program by the peach growers has always been a most important factor in maintaining adequate control which apparently is leading to eventual eradication of phony disease. In the 6-state area, grower cooperation is now practically 100 percent.

E. Regulatory

1. Procedures or techniques used

Peach and closely related species which are susceptible to the phony disease are produced by nurseries in the phony peach affected areas under quarantine regulations adopted several years ago by the several affected states.

2. Accomplishments

In Alabama, Georgia, South Carolina, and Texas, of the phony peach affected area, nursery inspections, as required by the state's standard quarantine, were made in 13 counties which covered a total of 30 nurseries. These nurseries were growing 1,413,700 trees of the restricted species for sales during the coming year. All nurseries were found to have met all of the various requirements for certification.

Nurserymen have cooperated in an excellent manner with the nursery certification procedures, and it was particularly gratifying this season, as for the past several seasons, to note that planting sites had been selected that were completely free of phony disease, and the few wild plums that were found within 300 yards of the proposed sites were either immediately killed or removed by the nurserymen.

No new counties were found infested with phony disease during the year, and no counties met the prescribed qualifications for release from regulations.

F. Methods Improvement

1. Work performed

The use of jeeps in inspecting orchards has now been extended to practically all of the commercial orchard area. This has saved a great amount of time and apparently is just as effective in making phony peach determinations as the old time honored method of walking the orchards. In Georgia, the jeeps used on the inspection work were improved by adding a steel frame guard to push peach tree limbs away from the top and prevent damage. This frame was fabricated in the Macon, Georgia, shop.

2. Accomplishments

The use of jeeps in orchard inspection was extended to other states where commercial orchards are annually inspected, and it proved to be entirely satisfactory in making adequate inspections for this disease.

The use of basal spray for wild plum eradication has been enthusiastically endorsed by peach growers since it is applied during their slack period of the year.

G. Other

1. Cooperation received during fiscal year

All states in the phony disease affected area cooperated in the various aspects of the program and furnished about an equal number of inspectors as well as about half of the other costs of the program. The state agencies also cooperated by enforcing the quarantine regulating production of peach nursery stock.

Peach growers continue to cooperate by furnishing labor and materials for all the various operations connected with the work, which, of course, includes marking infected trees, removing the stumps of such trees, and furnishing materials and labor for herbiciding wild plum thickets near their orchards. For the past several years, cooperation on the phony peach program has been just about 100 percent.

2. Associated activities and services

Newspapers, radio, television, fair exhibits, and meetings of growers, etc. were again employed to acquaint peach growers with all related information on the phony peach disease control program. In addition, very effective individual contacts were made with the peach growers, by employees of the Division and the cooperating state agencies, to discuss the phony peach work in detail and encourage their support. Particular emphasis is being placed on

grower contacts at the present time in order to maintain their intense interest in fighting this disease. In this program, as has been the case in other plant pest control programs, once the incidence has been reduced to the point that very little damage is caused, growers rapidly lose interest. This, of course, is a major obstacle in carrying eradication of plant pests to completion.

III. Recommendations for the coming year

A. Survey

Recommendations continue to be much the same as for the past several years. Surveys should be made in advance of setting new orchards, wherever possible, and if such surveys show an abundance of wild plum or phony infected peach trees growing in or near such areas, much loss can be prevented in the future if the plum and peach trees are killed by herbicides or removed at least a year ahead of setting the new orchards.

B. Eradication or control

With the incidence of phony disease at the lowest point in history, efforts to make as close inspection as possible and to remove trees at the earliest evidence of onset of the disease should be strengthened in every way possible.

C. Regulatory

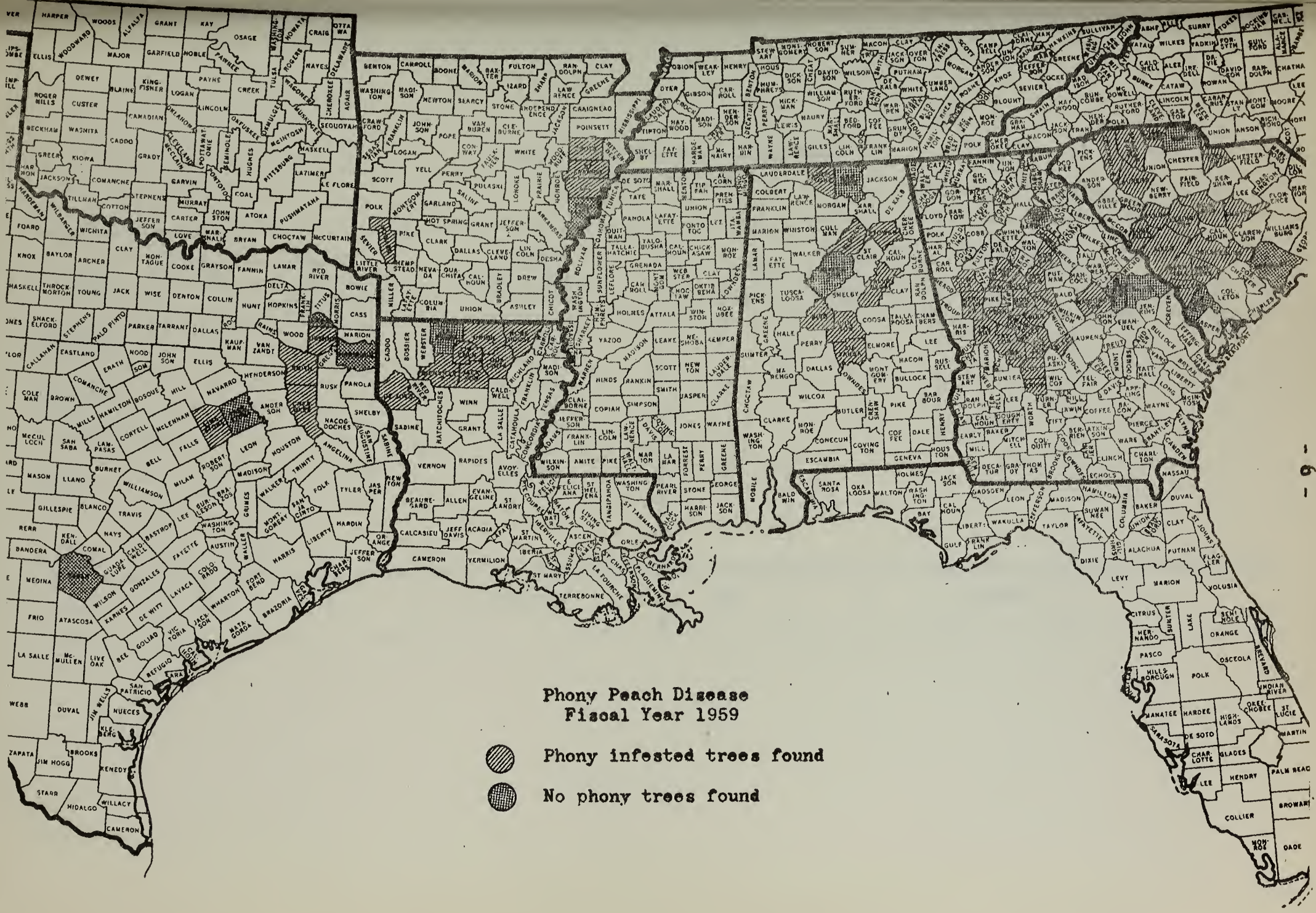
Present procedure of nursery planting site inspections seems to be completely effective in preventing the introduction of the disease to non-infested areas through the medium of infected nursery stock. There has been no evidence of such mode of transmission since the present certification procedure has been in effect.

D. Methods Improvement

Not applicable

E. Associated Activities

State and Division personnel interested in the phony peach disease program should make every effort to attend meetings and conferences of peach growers to discuss the present favorable situation and to encourage continuation of the 100 percent grower cooperation.


Phony Peach Disease
Fiscal Year 1959
Phony infested trees found
No phony trees found

PHONY PEACH NURSERY INSPECTIONS
Fiscal Year 1959

State	No. Cos.	Number Nurseries Inspected	Number Nursery Trees Inspected	Environs Inspections			
				Properties		Trees	
				Insp.	Infest.	Insp.	Infect.
Alabama	5	18	935,200	111	0	399	0
Georgia	3	3	185,000	14	0	51	0
South Carolina	1	1	20,000	1	0	10,000	0
Texas	4	8	273,500	56	0	498	0
4	13	30	1,413,700	182	0	10,948	0

PHONY PEACH

Region	Prepared by
Southern	
Period *(Designate: Month, 1-15, 16-31, or 1-31)* Fiscal Year 1959	Date prepared

STATE AND COUNTY	PROPERTIES			TREES			
	Inspected		Diseased	Inspected		Diseased	Removed
A	Initial B	Repeat C	D	Initial E	Repeat F	G	H
Alabama	465	0	253	804,393	0	1,747	1,747
Arkansas	78	0	11	269,642	0	18	17*
Georgia	302	0	219	3,512,060	0	13,250	13,250
Louisiana	1,951	3	59	158,828	26,500	470	470
S. Carolina	343	0	64	1,314,936	0	386	386
Texas	230	0	19	237,998	0	116	116
Total This Period							
Total From July 1, 1958	3,369	3	625	6,297,857	26,500	15,987	15,986*

PPC 7-18
FEB-58

* 1 diseased tree (Ark.) will be removed after fruit is harvested.

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Service
Plant Pest Control Division

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Service
Plant Pest Control Division

Program Phony Peach

Region Southern

SUMMARY OF ASSOCIATED ACTIVITIES

Prepared by: _____

Fiscal year 1959

Area	Public Meetings Attended	Presentations					Feature & News Stories	Extent These Aids Were Used				Special Reports
		Talks	Slides	Films	Radio	TV		Exhibits	Bul.	Cir.	Infest. Maps & Posters	
Alabama	3	1	-	-	-	-	-	-	-	-	-	-
Georgia	2	-	2	-	-	-	-	-	10	-	-	-
Texas	5	4	12	-	-	-	-	-	-	-	-	-
Total	10	5	14	-	-	-	-	-	10	-	-	-

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UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
CENTRAL REGION

ANNUAL PROGRAM REPORT

PINK BOLLWORM

July 1, 1958 - June 30, 1959

In Cooperation with Other
Federal, State, County, and Local Agencies

November 13, 1959
Minneapolis, Minn.

R. O. Bulger
Regional Supervisor

TABLE OF CONTENTS

I. HIGHLIGHTS OF YEAR'S PROGRAM ACTIVITY

A. Accomplishment for the fiscal year

To date the pink bollworm has not become established in the Central Region. However, the pest was found in northeast Arkansas adjacent to Missouri, which induced the latter State to take regulatory action as some cotton from the infested areas is processed in Missouri. From August to November, 1958, the Missouri Department of Agriculture maintained inspection stations in three major highways leading from the south and southwest into southeastern Missouri. Personnel checked approximately 200,000 cars, trucks, and farm equipment, and numerous picking crews, for cotton likely to contain pink bollworms. Gin trash inspections were made of trash obtained from 73 gins in Butler, Dunklin, Mississippi, New Madrid, Pemiscot, Scott, and Stoddard Counties. A total of 1,163 bushels of trash was run through the separating machine and examined for pink bollworm, and sixty lint-cleaner inspections were made. No infested material was found in either operation.

Emergency regulations were issued in March by the Missouri State Entomologist after the pink bollworm was found in an area adjacent to the Missouri line. The regulations were established as a means to prevent the spread of this pest through the movement of Arkansas cotton to processing plants in Missouri. Following the revision of Federal Domestic Quarantine on June 9, adjusting the regulated area in Arkansas, the State emergency regulations were lifted. Under the regulatory requirements, 13 cotton gins, 2 oil mills, 2 ~~delimiting~~ delinting plants, and 9 cotton compresses entered into dealer-carrier agreements, designating them to receive seed cotton and/or cotton products from the regulated area in Arkansas.

B. Major deviation from work plan

Previously developed work plans called for a limited detection program in conjunction with other activities. The regulation established by Missouri was not anticipated as the previously known infestations in Arkansas were some distance from the Missouri line. The confirmation of the new infestation in northeast Arkansas resulted in unplanned regulatory activity in cooperation with the Missouri State Department of Agriculture.

C. Status of program at close of year

Current activities in progress at the end of the year were designed to prevent the introduction of the pink bollworm into States of the Central Region. Enforcement of quarantine provisions will continue in the counties that receive cotton and cotton products from Arkansas. All shipments of cotton from

the regulated areas in the South via limited permit to the Northern States were checked. No diversions of cotton products was reported.

II. PROGRAM ACTIVITY DURING FISCAL YEAR

A. Planning and direction

The pink bollworm activities were jointly planned and directed by responsible Plant Pest Control personnel and appropriate State regulatory officials.

B. Technical assistance

Division personnel assisted the State Department of Agriculture and Extension personnel in developing and executing the various phases of the pink bollworm program.

Results of the cotton insect surveys conducted annually by the Missouri Extension Service in cooperation with growers were supplied to Plant Pest Control personnel.

C. Survey

A cotton insect scouting program planned and directed by the Missouri Extension Service in cooperation with individual growers was carried on from late June to early September. Twelve scouts inspected approximately 21,000 acres of cotton each week. No pink bollworm infestations were found during these surveys.

Gin trash inspections were carried on cooperatively by the Missouri Department of Agriculture and Division personnel. Sixty lint-cleaner inspections were made in Butler, Dunklin, New Madrid, and Pemiscot Counties. No evidence of the presence of pink bollworm was found in either the gin trash or lint-cleaner inspections.

D. Eradication or control

Not applicable.

E. Regulatory

Under the State regulatory program, inspection stations were in operation at points on the three main highways leading into southeastern Missouri from Arkansas. Some 200,000 vehicular inspections were made and all cotton bolls intercepted were burned.

Effective June 9, 1959, the Federal Pink Bollworm Quarantine was revised to designate certain parts of northeast Arkansas

counties as regulated areas. Under these regulations, cotton products and seed cotton originating in these areas moved in conformance with the provisions of the quarantine. Preliminary plans were made to enforce these regulations as they affect the processors in Missouri receiving cotton from the regulated areas in Arkansas.

Division personnel in nearly all States of the Central Region investigated numerous shipments of cotton products moved under limited permit from pink-bollworm-infested areas for consumption and use by manufacturers in the Northern States. No reports of violations were encountered during the course of the inspections.

F. Methods improvement

Efforts were made to improve inspection methods and procedures.

G. Other

During the year, Federal and Missouri personnel appeared at 10 meetings and gave six talks. The pink bollworm slides were used on three occasions to supplement discussions. These personnel appeared on four radio programs and assisted and/or provided information for four newspaper articles. A total of 250 pieces of informational materials was distributed.

III. RECOMMENDATIONS FOR COMING YEAR

A. Survey

It is recommended that the inspection stations be reestablished by the Missouri Department of Agriculture. Due to lack of funds, this activity was discontinued in 1959. Even though this phase of the pink bollworm program was strictly a State responsibility, it is another tool in preventing the establishment of the pest in Missouri.

B. Eradication or control

Although the pink bollworm is not present in this region, State and Federal agencies recommend that southeastern Missouri cotton growers carry on a stalk-destruction program in accordance with approved practices.

C. Regulatory

Absolute enforcement of the quarantine requirements is recommended for the operators in Missouri who receive seed cotton and cotton from the regulated areas in Arkansas. Approximately 15 gins process some Arkansas seed cotton, 2 oil mills handle cotton seed, and 6 compresses handle baled cotton originating in the

regulated area. These establishments will be required to operate under approved procedures designated in the dealer-carrier agreements.

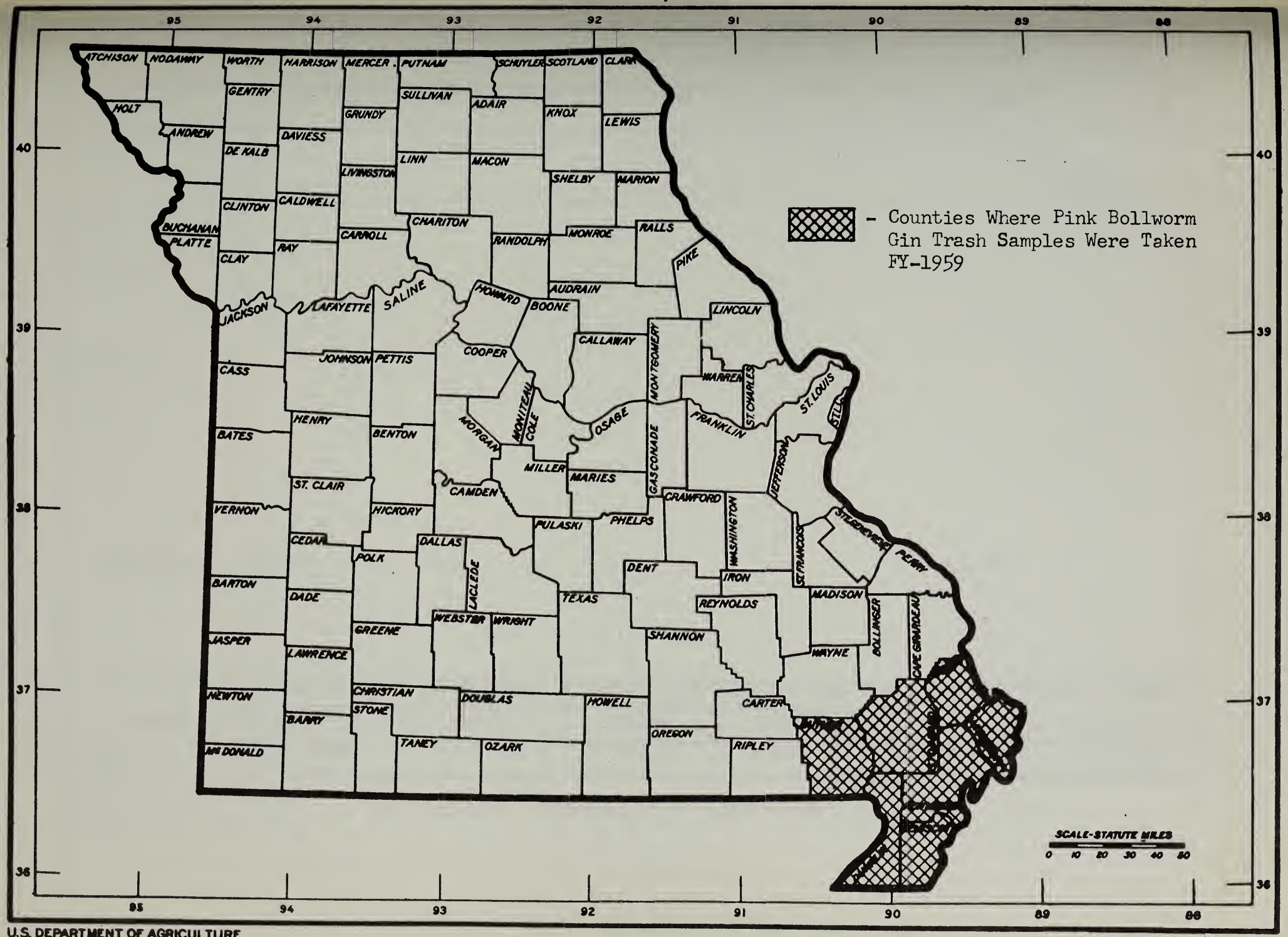
D. Methods improvement

Recommendations will be made to at least 50 gins that traps for catching first cleaner trash be installed. Since the quarantine requirements were in effect less than one month during this year, recommendations for improvement in all phases of this program will be made as the program progresses. At the present time the Division is primarily involved in the regulatory phases as the pest has not been found in this Region.

E. Associated activities

It is recommended that more emphasis be placed on informational activities now that the Division is involved in the regulatory phases of the program. Greater use should be made of the facilities of the Extension Service and Experiment Stations to keep the public informed of the pink bollworm program through newspapers, radio, TV, and agricultural meetings.

MISSOURI, 1933



U.S. DEPARTMENT OF AGRICULTURE

BUREAU OF AGRICULTURAL ECONOMICS

Pink Bollworm Accomplishments, Fiscal Year 1959

State	Gin Trash		Lint Cleaner		Bolls		Blooms		Inspected		Infested	
	Number		Number		Number		Number					
	Bushels	PBW	Insp.	PBW	Bolls	PBW	Blooms	PBW	Locs.	Acres	Locs.	Acres
Missouri	1,613	0	123	0	0	0	0	0	73	27,682	0	0
Totals	1,613	0	123	0	0	0	0	0	73	27,682	0	0

Pink Bollworm - Summary of Associated Activities, Fiscal Year 1959

State	Public Meetings Attended	Presentations					Feature & News Stories*	Extent These Aids Were Used**				Other
		Talks	Slides	Films	Radio	TV		Exhibits	Bulletins	Circulars	Infest. Maps & Posters	
FEDERAL												
Missouri	5	3	3	0	2	0	2	0	0	250	0	0
COOPERATORS												
Missouri	5	3	0	0	2	0	2	0	0	0	0	0
Totals	10	6	3	0	4	0	4	0	0	250	0	0

*Written by Federal personnel for release direct or through cooperators.
**Conservative estimate.

Pink Bollworm - Cooperative Aid Received - Fiscal Year 1959

Total	Cash and Equivalent Aid*				Total of	Intangible Service Estimate**	Source Grand Total
	Cash	Personal Service	Equipment & Supplies	Space			
Kentucky	0	0	0	0	0	100	100
Missouri	0	27,100	400	0	27,500	1,600	29,100
Totals	0	27,100	400	0	27,500	1,700	29,200

*Limited to direct appropriation, allotments from other sources, services and supplies for which there is a definite replacement value.
**Limited to services incidental to other activities with only an estimated value available.

Pink Bollworm - Expenditures by Source and by Activity - Fiscal Year 1959

State	Planning & Direction	Technical Assistance	Survey	Control	Regulatory	Methods Improvement	Other	Total
CASH & EQUIVALENT*								
PPC Division	$400	$200	$3,400	0	$200	0	$200	$4,400
Other Organizations:								
Missouri	0	0	2,800	0	24,700	0	0	27,500
CONTRIBUTED SERVICES**								
Kentucky	0	100	0	0	0	0	0	100
Missouri	900	700	0	0	0	0	0	1,600
Totals	$900	$800	0	0	0	0	0	$1,700
GRAND TOTALS	$1,300	$1,000	$6,200	0	$24,900	0	$200	$33,600

*Direct approp., allotments other sources, services & supplies for which there is a definite replacement value.

**Services incidental to other activities, for which only an estimated value is available.

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
MEXICO REGION

ANNUAL PROGRAM REPORT

Pink Bollworm Program

July 1, 1958 - June 30, 1959

In cooperation with

MEXICAN DEFENSA AGRICOLA

November 16, 1959
Monterrey, N. L., Mexico

W. K. Clore
Regional Supervisor

I. Highlights of Year's Program Activity

A. Accomplishment for the Fiscal Year

The program continued as a cooperative endeavor between the Defensa Agricola of Mexico and the Plant Pest Control Division of the United States Department of Agriculture. The area of activity was principally confined to the five regulated states of Tamaulipas, Nuevo Leon, Coahuila, Durango and Chihuahua and to the states of Baja California, Sonora and Sinaloa comprising a protective zone. In the State of Sinaloa, the Culiacan zone remained under quarantine with regulatory and control measures in effect. However, no additional pink bollworm have been found there since the initial finding in 1957, so apparently the pink bollworm has been eradicated in this zone.

Extensive surveys indicated the western states to be free of pink bollworm.

In the Matamoros, Tamaulipas district, an escrow was set up for the purpose of accomplishing the field clean-up. This system was backed by the cotton association but was meeting with considerable opposition from those who did not wish to cooperate.

In southern Coahuila and Durango, an insecticide control program was set up requiring the application of not less than 15 to 20 per cent DDT during the season for the purpose of reducing the pink bollworm infestation to a point that economic damage would not be experienced.

At the several quarantine inspection stations in the Western three-state area, a good volume of potentially infested material was intercepted and destroyed. Quarantine fumigations of contaminated railroad cars and some sacks and gin machinery were carried out, using methyl bromide in accordance with recommendations.

Program activities in general were accomplished in accordance with work plan.

B. Major Deviation from Work Plan

Excessive rains in the regulated area resulted in extensions of the stalk destruction dates and interfered with the insecticide application during the growing season in southwestern Coahuila, Durango and Chihuahua, causing an increased infestation which resulted in economic damage in some fields.

In the State of Sonora, contracts were made by two Mexican cotton oil companies with the Plant Pest Control Division, thus adding to the program activities the certification of cottonseed hulls, cake and meal for movement to the United States after treatment.

C. Status of Program at Close of Year

In the five regulated states, debris and bloom inspection indicated an increase in infestation but not sufficiently heavy to expect economic damage, except in Durango and southwestern Coahuila and possibly one municipio, in Nuevo Laredo, Tamaulipas.

Surveys in the northwest protective zone indicated the area to be free of pink bollworm and possible eradication in the Culiacan, Sinaloa district where pink bollworm was found in one small, isolated field in 1957.

II. Program Activity During Fiscal Year

A. Planning and Direction

The program was planned and directed jointly by supervising personnel of the Defensa Agricola of Mexico and the Plant Pest Control Division of the United States Department of Agriculture.

B. Technical Assistance

1. Technical Assistance Provided to Farmers and Others by Program Personnel

Technical assistance was furnished to the Defensa Agricola, farmers and industry on survey, control and regulatory methods, including detection of the pest, methods and evaluation of control, treatment of products mechanically and chemically, and the regulated movement of all host materials.

2. Technical Assistance Provided to Program by Cooperating Agencies

Research laboratories furnished information that assisted in accomplishing the program aims. Assistance was also provided by the Pink Bollworm Research Center in the identification of suspicious specimens caught in Argon light traps, and by other survey methods in free areas.

C. Survey

1. Procedures or Techniques Used

Several methods of survey were utilized. They were: debris, bloom, green boll, gin trash, lint cleaner and Argon light trap inspections. A most extensive survey was made in the Culiacan, Sinaloa eradication zone, and in the noninfested cotton areas of Sinaloa, Sonora and Baja California, a thorough survey was made principally by the gin trash inspection method. In the five regulated states of Tamaulipas, Nuevo Leon, Coahuila, Durango and Chihuahua, debris and bloom

inspections were made to determine the winter carry-over and to locate heavily infested fields that might necessitate chemical control during the growing season. Green boll inspections were made to determine the necessity of insecticide applications and to evaluate the chemical control program. A number of light traps were operated in the eastern edge of Baja California and the northeast section of Sonora -- areas of extreme interest, owing to their relative proximity to the pink bollworm infestation in Arizona.

2. Accomplishments

All methods of inspection outlined, except debris, were used in the three western states and no pink bollworm were found.

A limited amount of debris inspection accomplished in the five regulated states indicated a heavier infestation than during the previous year. Bloom inspection indicated a few fields in Municipio Nuevo Laredo, Tamaulipas, southwestern Coahuila and Durango to have heavy infestations. See tables 1, 2, 3, 4 and 5.

3. Statement or Table of Pest Damage

In the states of Coahuila and Durango, excessive rains the latter part of the season interfered with the application of insecticides, causing a heavy build-up of pink bollworm which resulted in an estimated 15 to 20 percent crop loss.

D. Eradication or Control

1. Procedures or Techniques Used

Eradication efforts were in progress in the Culiacan, Sinaloa zone, with the following procedures carried out: (1) destruction of all cotton stalks and deep plowing by August 15; (2) surveillance of area to destroy stub cotton to assure a host-free period; (3) controlled planting from November 15 to January 15.

Control procedures in the five regulated states were continued as in previous years, with planting and stalk destruction dates requisites of the program to maintain a host-free period.

2. Accomplishments

Excessive and prolonged rains in the regulated areas hindered the harvest of the crop and the accomplishment of the cultural control program, thus causing a higher than normal infestation of pink bollworm and other cotton insects. In view of these conditions, recommended insecticidal control was

v resorted to in order to attempt to prevent any economic loss in the crop.

Under the cultural control program there were an estimated 1.312,062 acres of cotton planted of which 1.304,838 acres of stalks were destroyed. A total of 22,097 farm calls were made in accomplishing the cultural control program. See table 6.

E. Regulatory

1. Procedures or Techniques Used

In the five regulated states with their buffer zones, the same regulatory measures continued in effect, which included sterilization of cottonseed during the process of ginning, sanitation of processing plants and premises, segregation of products to prevent contamination, the regulated movement of products and the certification of processing plants to permit movement of products to the United States.

In the Culiacan eradication zone in Sinaloa, gin sanitation was maintained as well as segregation of products and the burning of gin trash; cottonseed was required to be moved to Guadalajara, Jalisco for milling and not held in storage in the Culiacan zone from one season to the next.

Quarantine inspections for all host materials were made daily at all strategic points in the three states of the northwest protective zone and quarantine stations were operated to prevent the entrance and movement of pink bollworm host materials. Large numbers of braceros and their baggage moving from the eastern to the western part of the Republic and on to the United States were inspected. Treatments were made with methyl bromide of contaminated railroad cars and cotton contaminated products, seed cotton and cottonseed moving north out of Culiacan, Sinaloa and shipments of sacks, baggage, etc., arriving from foreign countries. Two oil mills in Sonora were certified and supervised for the movement of oil mill products to the United States. See table 7.

2. Accomplishments

Approximately 12,000 gin inspections were made in the regulated area at some 255 gins, of which 221 operated. These gins processed more than 1.150,000 bales of cotton. There were 1,241 visits made to 23 oil mills, 11 of which were certified mills; also, 697 visits were made to five compresses in eastern states. A total of 127 gins, 11 oil mills and two compresses were certified for movement of products through United States ports of entry in accordance with foreign quarantine requirements. There were 1,121 permits issued for movement of cotton

and linter samples and 136 permits issued for movement of segregated baled cotton through the Brownsville port of entry. See table 6.

At inspection points in the three western states, a large volume of susceptible pink bollworm material originating in infested areas was intercepted and destroyed. Railroad cars and trucks cleaned and/or fumigated totalled 5,026. Please refer to table No. 7 for summary of accomplishments at cooperative inspection stations.

F. Methods Improvement (Not applicable)

G. Other

1. Cooperation Received During Fiscal Year

The Defensa Agricola furnished physical and financial cooperation in the accomplishment of the program endeavors. Also cooperation was received from the Patronatos, cotton associations, experiment stations, extension service and municipal governments of outlying zones, industry and farmers.

The most important cooperative work needing strengthening another year would be the planting periods and the stalk destruction phases of the program.

2. Associated Activities and Services

To acquaint the farmers and industry with changes or new methods and procedures, public meetings were held or the Defensa Agricola informed those concerned through the newspaper or by printed notices.

Representatives of the Plant Pest Control Division of the Mexico Region attended the Western Cotton Production conference in Phoenix, Arizona. Representatives of industry from both countries, United States and Mexico, were in attendance, as well as representatives from the United States Department of Agriculture and the state departments of agriculture of Arizona, New Mexico and California.

III. Recommendations for Coming Year

A. Survey

All methods of survey should be continued. Extensive inspection should be made in the Culiacan, Sinaloa eradication zone.

B. Eradication and Control

Work in the Culiacan zone with eradication as the aim should continue to be strengthened in what is hoped will be the last

year that the section will have to be quarantined.

The stalk destruction, stub cotton control and planting phases of the program should be strengthened through increased farmer contacts, agricultural organizations and the press and radio.

C. Regulatory

No changes recommended

D. Methods Improvement (Not applicable)

E. Associated Activities

The public should be kept informed of the progress of the program and advised to be on the alert for new infestations of the pink bollworm and any other insect pest. Regional representatives of the Plant Pest Control Division should attend meetings held by industrial associations in Mexico and in contiguous states to keep abreast of problems which may affect the program accomplishments.

U. S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION

PINK BOLLWORM REPORT

REGION: MEXICO

PREPARED BY:

INSTRUCTION: Regional office preparing report for Division should group all counties within a State having identical stalk destruction deadlines into one reporting entry and identify the entry by stalk destruction deadline date in Column A.

PERIOD (Designate 1-15, 16-31, or 1-31): July 1, 1958 to June 30, 1959

DATE PREPARED:

STATE, ZONE, COUNTY, OR LOCALITY	INSPECTION								DEGREE OF INFESTATION				
	WITHIN REGULATED AREA				OUTSIDE REGULATED AREA				TOTAL COUNTIES INFESTED	TRACE	LIGHT	MEDIUM	HEAVY
	INSPECTED		INFESTED		INSPECTED		INFESTED						
	NO. LOCATIONS	ESTIMATED ACRES	NO. LOCATIONS	ESTIMATED ACRES	NO. LOCATIONS	ESTIMATED ACRES	NO. LOCATIONS	ESTIMATED ACRES					
A	B	C	D	E	F	G	H	I	J	K	L	M	N
TAMAULIPAS	107 693	415,515 Repeat	46	411,298	13	5,707	0		11		DEGREE		
NUEVO LEON	118 102	28,177 Repeat	52	26,269					10		OF		
											INFESTATION		
COAHUILA	197 73	17,485 Repeat	197	17,485					16		NOT		
DURANGO	186 112	39,077 Repeat	182	38,920					8		REPORTED		
CHIHUAHUA	107 84	29,007 Repeat	65	27,703					21				
SINALOA	25 90	1/ 30,490 Repeat	0	0	69 19	333,890 Repeat	0						
SONORA					57 50	345,430 Repeat	0						
BAJA CALIFORNIA					112 60	410,000 Repeat							
TOTAL THIS PERIOD													
TOTAL FROM JULY 1	1,894	559,751	542	521,675	380	1,095,027	0		66				

PPC Form 7-20
Sept 1958

1/ 12,490 acres of 1959-60 crop.

	A	B	C	D	E	F	G	H	I	J	K	L	M
OUTDOOR AREA ZONE NUMBER	INSPECTED		INSPECTED		INSPECTED		INSPECTED						
	WITHIN MEDICALLY ACCESSIBLE AREA				OUTSIDE MEDICALLY ACCESSIBLE AREA								
	INSPECTION								DEGREE OF PRESERVATION				
	ZONE NUMBER	ESTIMATED POWER	ZONE NUMBER	ESTIMATED POWER	ZONE NUMBER	ESTIMATED POWER	ZONE NUMBER	ESTIMATED POWER	SUMMARY COMMENTS	LARGE	FIELD	MINOR	NEAR
[illegible]	104	125,828	49	127,589	12	3,104	0		11				
[illegible]	114	50,711	25	30,309					10		36		
[illegible]	141	32,098	146	34,982					14		[illegible]		
[illegible]	104	37,012	104	28,280					6		[illegible]		
[illegible]	104	52,100	89	52,100					57				
[illegible]	52	30,940	0	0	90	207,080	0						
[illegible]					21	302,950	0						
[illegible]					133	420,000							
[illegible]													
[illegible]													
[illegible]	104	125,828	49	127,589	12	3,104	0		11				

Table 2

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION

Mexico Region

Fiscal Year 1959

PINK BOLLWORM

DEBRIS INSPECTION

State and No. Municipios	Stalk Destruction Deadline	Within Regulated Area: Number of Acres Inspected	No. Sq. Yards Inspected	No. Bolls Inspected	Number Pink Bollworms Found: Alive	Dead
TAMAULIPAS						
10 Municipios	8/31	9,870	6,000	3,235	77	17
1 Municipio	9/25	11,460	1,125	2,324	338	28
NUEVO LEON						
11 Municipios	9/25	2,662	1,925	882	11	0
COAHUILA						
4 Municipios	12/15	427	250	753	16	21
8 Municipios	10/10	3,822	575	821	91	4
CHIHUAHUA						
7 Municipios	12/31	462	400	1,160	45	22
DURANGO						
4 Municipios	12/15	1,022	250	737	73	46
TOTALS:	-	29,725	10,525	9,912	651	138

Table 3

Mexico Region

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION

Fiscal Year 1959

PINK BOLLWORM

BLOOM AND GREEN BOLL INSPECTION

STATE	Stalk Destruction Deadline	WITHIN REGULATED AREA		OUTSIDE REGULATED AREA		Total Counties Infested
		Inspected Estim. Acres	Infested Estim. Acres	Inspected Estim. Acres	Infested Estim. Acres	
TAMAULIPAS	8/31 + 9/25	26,845	14,536			9
NUEVO LEON	9/25	3,264	1,415			7
COAHUILA	10/10 + 12/15	9,430	9,430			8
DURANGO	12/15	8,243	8,243			7
CHIHUAHUA	12/31	7,665	3,344			19
SINALOA	7 /31	15,000	0	107,500	0	0
SONORA	-			286,930	0	0
BAJA CALIFORNIA and SAN LUIS SONORA	-			385,300	0	0
TOTALS:		70,447	36,968	779,730	0	50

TABLE 4

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION

FISCAL YEAR 1959

MEXICO REGION

PINK BOLLWORM

GIN TRASH INSPECTION

STATE	No. Municipios	Bushels Trash Inspected	Bales Represented	P B W Larvae Found	P B W per Bushel	P B W per bale
TAMAULIPAS	3	408.5	2,786 *	44,061 *	107.8 *	15.8 *
SINALOA	9	2,462.	--	--	--	--
SONORA	6	8,580.	--	--	--	--
BAJA CALIFORNIA	2	8,220.	--	--	--	--
T O T A L S	20	19,670.5	2,786	44,061	107.8	15.8

* Refers only to State of Tamaulipas.

TABLE 5

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION

MEXICO REGION

PINK BOLLWORM

FISCAL YEAR 1959

LINT CLEANER INSPECTION

STATE	Number of Locations	Number of Inspections	Pink Bollworms Found	Bales Represented
TAMAULIPAS (Outside Area)	1	9	0	29
TAMAULIPAS (Reg. Area)	51	283	9,389	267
NUEVO LEON	7	35	3,979	83
CHIHUAHUA	12	13	518	52
DURANGO	12	12	257	36
SINALOA	11	192	0	0
SONORA	16	327	0	0
BAJA CALIFORNIA	9	523	0	390,000
TOTALS	119	1,394	14,143	390,467

PINK BOLLWORM

* Regional office in preparing report for Division should group all counties within a State having identical stalk destruction deadlines into one reporting entry and identify the entry by stalk destruction deadline date.

REGION: MEXICO

PREPARED BY:

PERIOD (Designate 1-15, 16-31, or 1-31): July 1, 1958 to June 30, 1959

DATE PREPARED:

STATE, ZONE, COUNTY, OR LOCALITY * (A)	CULTURAL CONTROL: STALK DESTRUCTION DEADLINE (B)	ACREAGE PLANTED (EST.) (C)	ACRES STALKS DESTROYED THIS PERIOD (D)	ACRES STALKS DESTROYED THIS SEASON (E)	FARM CALLS (F)	REGULATORY CONTROL: NO. REGULATED ESTABLISHMENTS VISITED (G)	NUMBER VIOLATIONS FOUND (H)	BALES GINNED ~~XXXXXX~~ REGULATED ~~PRODUCTS MOVED~~ AREA
TAMAULIPAS	Aug. 31	750,000		748,250	15,780	124	14	
	Sept. 25	25,000		24,570	1,575	5	2	
NUEVO LEON	Sept. 25	29,000		29,000	1,764	12	5	
COAHUILA	Oct. 10	9,250		9,250	390	3		
	Dec. 15	137,500		136,125	723	57	45	
DURANGO	Dec. 15	90,000		88,980	737	30	5	
CHIHUAHUA	Dec. 31	253,312		250,663	581	49		
SINALOA	Aug. 15	18,000		18,000	547 1/	3		
TOTAL THIS PERIOD								
TOTAL FROM JULY 1		1,312,062		1,304,838	22,097	2/ 283	71	3/ 1,153,058

1/ In June report 232 farm calls reported which are outside the regulated area.
2/ 21 establishments not previously reported.
3/ Bales ginned at Culiacán not reported.

PPC Form 7-20
May 1958

U. S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION

STATE ZONE COUNTY, OR LOCALITY (A)	CULTURAL CONTROL: STALK DESTRUCTION DEADLINE (B)	ACREAGE PLANTED (EST.) (C)	ACRES STALKS DESTROYED THIS PERIOD (D)	ACRES STALKS DESTROYED THIS SEASON (E)	FARM CALLS (F)	REGULATORY CONTROL: NO. REGULATED ESTABLISHMENTS VISITED (G)	NUMBER VIOLATIONS FOUND (H)	NUMBER VIOLATIONS CORRECTED LEGAL
YUMA/QUIFAS	Aug. 31	730,000		742,250	15,780	124	14	
	Sept. 25	25,000		24,570	1,575	5	2	
BUENO LIZOW	Sept. 25	27,000		27,000	1,764	12	5	
COLINDIA	Oct. 20	9,250		9,250	390	3		
	Nov. 15	127,300		124,125	725	57	43	
DURANGO	Nov. 15	90,000		86,940	127	30	5	
GUIRNALDA	Dec. 31	753,312		250,642	181	49		
ZIRALDA	Aug. 15	24,000		24,000	247 1/	3		
TOTAL THIS PERIOD								
TOTAL FROM JULY 1		1,312,562		1,304,408	22,077	1/ 880	74	2/ 1,153,050

1/ Includes 27,000 farm calls (reported below) which are omitted from temporary data.

Table 7

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION

Mexico Region — Cooperative Inspection Stations — F.Y. 1959

Inspection Stations	Type of Inspection	Number of Inspections	Number of Passengers & Braceros	Pieces of Baggage & Express	RR Cars and trucks cleaned &/or fumigated	Host Interceptions					
						Occasions			Items		
						MFF	CBF	PBW	MFF	CBF	PBW
BAJA CALIFORNIA											
Tijuana	Plane	2,395	49,313	178,655		857	138				
Mexicali	Plane	1,039	13,269	47,207							
	Trucks	504				180	13	23	410	42	29
	Railroad	10,246		12,674	204						
Ensenada	Plane	484	2,288	9,880		39	5				
	Boat	135	910	1,843		21	6		1	2	
SONORA											
San Luis	Rd. Station	15,137				1,229	69	148	624	4	
Benjamin Nill	RR cars	7,710			2,107						
	RR passgr	-	219,982						24,550	1,392	5,590
	Rd. Station	155,897			290	30,713	2,978	1,501			
Nogales	Plane	936	17,494	36,859		483	40	85			
	RR Mkt. Mail	Daily				807	59				
SINALOA											
Mazatlan	Rd. Station	55,771	120,938		1,436						
	Plane	548									
	RR cars	408	19,658								2,053 and 403 k. cottonseed
	RR trains	610									
	Baot	273									
Terreros	Rd. Station	72,078	158,047		989						2,032
TOTALS		324,171	601,899	287,118	5,026	34,329	3,308	1,757	25,585	1,440	10,107

TABLE : 8

☐ ESTIMATE FPG ☒ ACTUAL

PLANT PEST CONTROL DIVISION

SIGNATURE	DATE	FISCAL YEAR

TABLE : 8

PROGRAM COST DISTRIBUTION

☐ ESTIMATE PPC ☒ ACTUAL

U. S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION

NAME OF PROGRAM	OPERATING UNIT	SIGNATURE	DATE	FISCAL YEAR
PINK BOLLWORM PROGRAM	MEXICO REGION	Regional Supervisor	Nov.16,1959	1959

SOURCE OF CASH AND EQUIVALENT (A) *	PLANNING AND DIRECTION (B)	TECHNICAL ASSISTANCE (C)	SURVEY (D)	CONTROL (E)	REGULATORY (F)	METHODS IMPROVEMENT (G)	~~OTHER~~ NOT DISTRIBUTED (H)	TOTAL (I)
1. PLANT PEST CONTROL FUNDS								
Headquarters,	18,092							18,092
East Mexico	30,176	9,971	14,194	19,500	19,500			93,341
West Mexico	12,049		5,140	5,800	37,871			60,860
2. SUB-TOTALS	60,317	9,971	19,334	25,300	57,371			172,293
3. OTHER- West Mexico								
Defensa Agricola							18,404	18,404
Patronatos							18,818	18,818
Industry							15,000	15,000
4) SUB-TOTALS							52,222	52,222
5. TOTALS	60,317	9,971	19,334	25,300	57,371		52,222	224,515
6. CONTRIBUTED FUNDS								
East Mexico-								
Mexican Federal Gov't							73,837	73,837
Patronato & Local Com.							60,344	60,344
Industry							864,794	864,794
West Mexico-								
Mexican Federal Gov't							1,271	1,271
7. TOTALS							1,000,246	1,000,246
8. GRAND TOTALS	60,317	9,971	19,334	25,300	57,371		1,052,468	1,224,761

* Column A: List entries in the following order:

1. PLANT PEST CONTROL DIVISION units. Name states. Include only direct appropriation, allotments from other sources, services and supplies for which there is an actual cash expenditure.

2. Sub-total for all PPC funds included in (1).

3. OTHER ORGANIZATIONS. Name organizations by States. Include only direct appropriation, allotments from other sources, services and supplies for which there is an actual cash expenditure, or measurable cash expenditure.

4. Sub-total for all OTHER ORGANIZATIONS, funds included in (3).

5. Totals of PPC and OTHER ORGANIZATIONS, funds included in (2) plus (4).

6. CONTRIBUTED SERVICES. Name organizations by State. Limit to services incidental to other activities for which only an estimated value is available.

7. Total of CONTRIBUTED SERVICES, items included in (6) only.

8. GRAND TOTAL of (5) and (7) entries.

DEC 1959

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
SOUTHERN REGION

ANNUAL PROGRAM REPORT

PINK BOLLWORM

July 1, 1958 - June 30, 1959

In cooperation with other
Federal, State, County, and Local Agencies

November 13, 1959
Gulfport, Mississippi

C. C. Fancher
Regional Supervisor

I. Highlight of Year's Program Activity

A. Accomplishments for the fiscal year

During the cotton growing season, intensive surveys for pink bollworms were conducted in all states of the Southern Region with the exception of the Carolinas. All methods of inspection - gin trash, lint cleaners, bolls and blooms- were used to determine the presence of or population density of pink bollworms. In the generally infested states of Texas and Oklahoma, there were areas with populations sufficient to cause some economic damage. In Arkansas, infestations were found in 9 counties outside of the regulated area, and in Louisiana, there was spread into 5 additional parishes, but infestations in both states were very light.

B. Major deviations from Work Plan

It was necessary to adjust work plans in Arkansas and Louisiana due to finding pink bollworms in the parishes and counties outside the regulated areas. In February 1959, the Oklahoma State Board of Agriculture, in cooperation with Plant Pest Control Division, and the Oklahoma State University Extension Service, considered, approved, and recommended to state cotton growers a four point voluntary stalk destruction program for all counties in Oklahoma which were incorporated in the work plan.

Unfavorable weather made it necessary to grant extension of deadline dates for stalk destruction in most areas of Texas and Arkansas where this control practice is compulsory. Efforts were made,with considerable success,to get ginners in Arkansas, Louisiana, and Tennessee,to install gin trash traps in their gins so that this material could be collected for inspection.

C. Status of program at close of year

Nine counties in Arkansas and 5 parishes in Louisiana outside the regulated area were found infested with pink bollworms. Infestation was found in 25 counties in Arkansas and 18 parishes in Louisiana which is the most widely distributed infestations on record in these two states. All infestations were from "trace" to "light", and there was no economic damage reported. In Oklahoma and Texas, the infestation was general, ranging from trace to heavy. Economic damage was local, but did occur in several counties of the two states. No pink bollworms were found east of the Mississippi River. Cultural controls, though delayed by weather, were generally effective in all areas where these practices are mandatory.

II. Program Activity During Fiscal Year

A. Planning and Direction

1. How planned and directed

Personnel of the Plant Pest Control Division and State Plant Pest Control Agencies cooperate to set planting and plow up dates in the various areas of the infested states. Survey and control activities are delegated to the District Supervisors for action in their respective districts.

B. Technical Assistance

1. Technical assistance provided to farmers and others by program personnel

District Inspectors, both Federal and State, kept growers informed of the latest control and regulatory recommendations. Efforts were made to encourage early harvest and stalk destruction as required by state regulations.

Technical assistance is provided processors, dealers, and transportation agencies handling regulated products regarding treatment, storage, and approved procedures for moving restricted products from the regulated area.

2. Technical assistance provided to program by cooperating agencies

The Extension Service, Soil Conservation Service, and Farm Bureau were active in assisting ginners, oil millers and compress operators to comply with approved practices as stated in Federal and State regulations.

C. Survey

1. Procedures or Techniques Used

The inspection of gin trash by the use of gin trash machines is the main method of inspection throughout the area. Lint cleaner inspection is also relied on, especially in areas where gin trash is not readily available. Inspection in the field consists of bloom, green boll, and field debris. The latter method is used to determine the overwinter survival of pink bollworm larvae.

2. Accomplishments

Surveys were made in 9 states of the Region on 19,782 properties representing more than 6½ million acres. Incipient infestations were discovered in 5 parishes in Louisiana and 9 counties in Arkansas. Survey totals show that infestations were found in 281 counties of Arkansas, Louisiana, Oklahoma and Texas. Inspections in the old regulated areas showed a generally low level of infestation, with a very few counties showing damaging populations. A number of new gin trash machines were built and put into operation during the fiscal year.

3. Statement or table of pest damage

The pink bollworm larva feeds inside the green boll, cutting the lint and destroying the seed. The damage to the lint reduces the grade drastically, and feeding on the seed reduces weight and oil content. If not controlled, the pink bollworms can cause from moderate damage to complete loss of the crop.

D. Eradication or Control

1. Procedures or techniques used

In states having light populations, efforts are made to eradicate new infestations when found by promptly cleaning up the field debris, by fumigation, and also by making insecticide applications as required. In the generally infested areas cultural control is practiced, which consists of early planting, early harvest, and prompt field clean-up to reduce the number of insect generations.

2. Accomplishments

Recommended cultural control practices were applied to 2,362,163 acres.

E. Regulatory

1. Procedures or Techniques Used

Federal Quarantine No. 52 designates the regulated area, products under restriction, conditions governing the movement of regulated articles, and the proper procedure to be followed for issuing certificates and limited permits for the movement of the regulated products. The Quarantine is modified or amended as conditions require. A manual of

authorized treatments for certification of regulated products is used as a guide in preparing material for shipment that may have been exposed to infestation by pink bollworms. Road patrol stations are operated on the main highways leaving the quarantined areas to intercept material that has failed to be inspected or certified. Lint, seed, and other cotton products are fumigated, heat treated, or subjected to other means of treatment to make them safe to enter the customary trade channels.

2. Accomplishments

Spread of the pink bollworm has been held to a minimum; no new infestations are known to have been started by movement of regulated material.

F. Methods Improvement

1. Work Performed

None

2. Accomplishments

None

G. Other

1. Cooperation received during the year

Division and cooperating state agencies furnished inspection and supervisory personnel for all phases of the program. The Extension Service in the affected states helped secure farmer cooperation in the stalk destruction program.

2. Cooperative work needing strengthening another year

Cultural control work should be stressed throughout the area, and especially in the lightly infested counties found infested this year.

III. Recommendations for the coming year

A. Survey

Survey should be contined in all cotton growing areas east of the Mississippi River, with emphasis placed on discovering

very light infestations as soon as possible. Surveys in the generally infested areas will serve as guides for control and eradication measures.

B. Eradication or Control

Continue cooperation with states concerned with holding infestations to a low population level, and attempt to eradicate any new infestations developing outside generally infested areas.

C. Regulatory

Recommendations are that more emphasis be placed on the supervision of establishments that deal in or are concerned with the interstate movement of cotton and cotton by-products. Road stations should be maintained at selected locations at the border of the regulated area to check on the movement of regulated material during the shipping season.

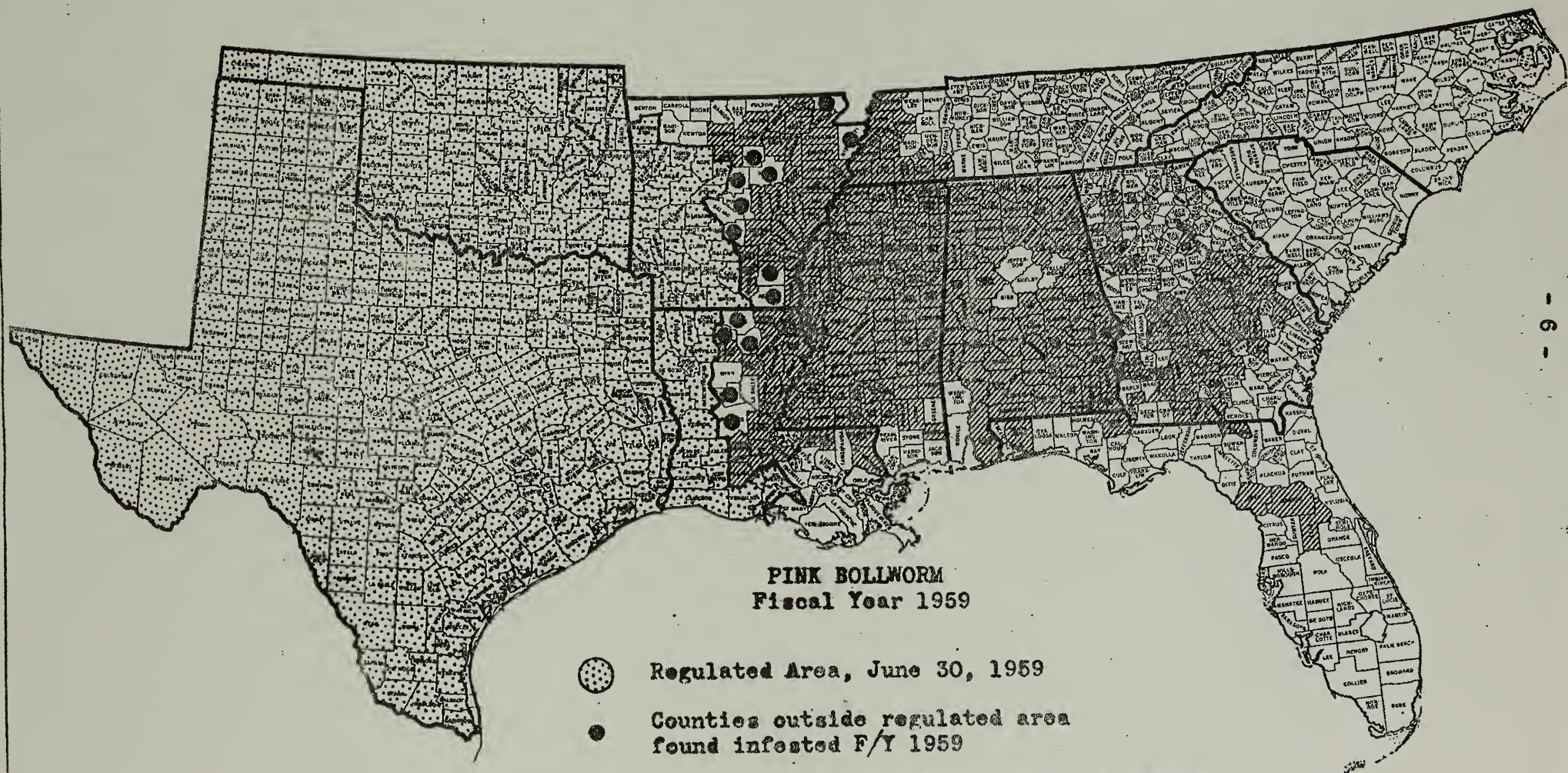
D. Methods Improvement

Any improvements in control or inspection techniques as developed by the Methods Improvement Section should be put into practice as soon as proven practical.

E. Associated Activities

Continued efforts should be made to keep the problem of pink bollworm detection and control before the cooperating officials and the public, especially in the cotton growing states where the pink bollworm has not become established.

SOUTHERN REGION
PLANT PEST CONTROL DIVISION



U. S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION

PINK BOLLWORM REPORT

REGION: Southern

PREPARED BY:

INSTRUCTION: Regional office preparing report for Division should group all counties within a State having identical stalk destruction deadlines into one reporting entry and identify the entry by stalk destruction deadline date in Column A.

PERIOD (Designate 1-15, 16-31, or 1-31): Fiscal Year 1959

DATE PREPARED:

STATE, ZONE, COUNTY, OR LOCALITY	INSPECTION								TOTAL COUNTIES INFESTED	DEGREE OF INFESTATION			
	WITHIN REGULATED AREA				OUTSIDE REGULATED AREA								
	INSPECTED		INFESTED		INSPECTED		INFESTED						
	NO. LOCATIONS	ESTIMATED ACRES	NO. LOCATIONS	ESTIMATED ACRES	NO. LOCATIONS	ESTIMATED ACRES	NO. LOCATIONS	ESTIMATED ACRES		TRACE	LIGHT	MEDIUM	HEAVY
A	B	C	D	E	F	G	H	I	J	K	L	M	N
Alabama					410	589,295							
Arkansas	220	41,840	65	25,989	696	742,715	9	10,178	25				
Florida					14	9,088							
Georgia					641	179,029							
Louisiana	836	63,123	46	13,586	1020	124,374	7	172	18				
Mississippi					5071	867,913							
Oklahoma	711	375,777	149	349,796					42				
Tennessee					243	170,277							
Texas	9920	3,479,605	2323	2,468,741					196				
TOTAL THIS PERIOD													
TOTAL FROM JULY 1	11687	3,960,345	2583	2,858,112	8095	2,682,691	16	10,350	281				

PPC Form 7-20
Sept 1958

INSPECTION SUMMARY

Program: Pink Bollworm
Region: Southern

Fiscal Year 1959
(by 6-month period)

State	Surveyed	Found infested	Inspection, by type: Gin trash Number Bu.	Gin trash Number PBW	Lint cleaner Number Insp.	Lint cleaner Number PBW	Bolls Number Bolls	Bolls Number PBW	Blooms Number Blooms	Blooms Number PBW
Period: July 1 - December 31, 1958:										
Alabama	56	0	676	0	129	0	485	0	311,674	0
Arkansas	55	24	33,723	341	789	3	8,030	0	66,203	0
Florida	5	0	80	0	12	0	0	0	4,860	0
Georgia	57	0	2,334	0	175	0	2	0	0	0
Louisiana	50	18	12,647	143	627	103	57,360	11	287,234	0
Mississippi	76	0	15,952	0	713	0	476,695	0	5,638,925	0
Oklahoma	46	42	811	1,528	510	10,386	1,207	144	68,143	0
Tennessee	13	0	1,740	0	135	0	18,300	0	0	0
Texas	205	190	959.5	83,944	5,307	206,568	39,978	15,013	680,626	517
Total	563	274	68,922.5	85,956	8,397	217,060	602,057	15,168	7,057,665	517
Period: January 1 - June 30, 1959:										
Alabama	11	0	0	0	0	0	161	0	4,247	0
Arkansas	13	12	485	30	0	0	0	0	0	0
Florida	1	0	0	0	0	0	* 0	0	0	0
Georgia	0	0	0	0	0	0	0	0	0	0
Louisiana	7	0	0	0	0	0	200	0	165,197	0
Mississippi	11	0	0	0	0	0	0	0	23,492	0
Oklahoma	11	1	0	0	3	425	1,294	265	0	0
Tennessee	5	0	168	0	0	0	0	0	0	0
Texas	139	122	0	0	243	7,350	35,980	6,020	252	77,010
Total	198	135	653	30	246	7,775	37,635	6,285	193,188	77,010
GRAND Total:	XXX	XXX	69,575.5	85,986	8,643	224,835	639,692	21,453	7,250,853	77,527

* Fla. - Okra pods inspected - 2,190 (second half fly) - no PBW.

PINK BOLLWORM	* Regional office in preparing report for Division should group all counties within a State having identical stalk destruction deadlines into one reporting entry and identify the entry by stalk destruction deadline date.	REGION Southern	PREPARED BY	
		PERIOD (Designate 1-15, 16-31, or 1-31) Fiscal Year 1959		DATE PREPARED

STATE, ZONE, COUNTY, OR LOCALITY * (A)	CULTURAL CONTROL					REGULATORY CONTROL		
	STALK DESTRUCTION DEADLINE (B)	ACREAGE PLANTED (EST.) (C)	ACRES STALKS DESTROYED THIS PERIOD (D)	ACRES STALKS DESTROYED THIS SEASON (E)	FARM CALLS (F)	NO. REGULATED ESTABLISHMENTS VISITED (No. Visits) (G)	NUMBER VIOLATIONS FOUND (H)	TONS OF REGULATED PRODUCTS MOVED (I)
Arkansas		41,343		41,343	4,338	3,104	0	129,515
Louisiana*		117,941		117,855	11,949	3,571	424	57,026
Oklahoma*		464,161		369,959	0	2,096	0	67,323
Texas		1,833,006		1,833,006	23,863	24,089	554	3,144,974
TOTAL THIS PERIOD								
TOTAL FROM JULY 1	XXX	2,456,451	XXX	2,362,163	40,150	32,860	978	3,398,838

* Cultural control program in Oklahoma on voluntary basis.
Approximately 600 acres in La. voluntary cultural control.

PPC Form 7-20
May 1958

U. S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION

REGULATORY SUMMARY

Program: Pink Bollworm
Region: Southern

Fiscal Year 1959

	Arkansas	Louisiana	Oklahoma	Texas	Total
Counties under quarantine	29	24	77	254	384
Estimated acres in cotton	41,343	117,941	464,161	6,069,326	6,692,771
Estimated growers	3,514	8,264	26,805	182,036	220,619
Visits to processing plants	4,704	3,571	2,096	25,638	36,009
Permits for movement of cotton and cotton products	3,323	1,042	494	* 12,132	16,991
Establishments under dealer-carrier permit:					
Cotton gins	53	83	267	1,581	1,984
Oil mills	10	6	7	65	88
Compresses and warehouses	47	21	24	127	219
Fumigation plants	0	1	2	26	29
Vacuum fumigation plants	0	0	0	1	1
Other handlers and dealers	5	4	9	148	166
Bales cotton ginned	32,299	80,453	311,592	4,317,710	4,742,054
Gins with hearers to treat seed	49	83	0	2	134
Mechanical cotton pickers fumigated	1	9	0	94	104

* Texas - In addition, there were issued:
46,025 okra tags
2,800 okra rubber stamp imprints
25,000 flora kit rubber stamp imprints

ROAD PATROL SUMMARY

Program: Pink Bollworm
Region: Southern

Fiscal Year 1959

Type Operation	Number			
Inspected:	Ark.	La.	Miss.	Total
Picker Crews	4,835	64	Quarantine Stations along Mississippi River planned and directed by Mississippi State Plant Board.	4,899
Picking Sacks	4,410	165		4,575
Bolls	22,393	3,477		25,870
Cottonseed	48#	26.75#		74.75#
Seed Cotton	132#	0		132#
Okra Containers	*	13,620		13,620*
Passenger Cars and Trucks	1,614,034	426,392		2,040,426
Cargo and Produce Trucks	*	18,992		18,992*
Cottonseed Trucks	55	144		199
Turned Back:				
Trucks	0	1		1
Mechanical Pickers	0	0		0
Passed:				
Mechanical Pickers	32	32		64
Interceptions	1,680	419		2,099
Number Live Pink Bollworms	916	470		1,386

* Number okra containers and cargo and produce trucks inspected (Ark.) not available.

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Service
Plant Pest Control Division

SUMMARY OF ASSOCIATED ACTIVITIES

Program Pink Bollworm

Region Southern

Prepared by: _____

Fiscal year 1959

Area	Public Meetings Attended	Presentations					Feature & News Stories*	Extent These Aids Were Used				Special Reports
		Talks	Slides	Films	Radio	TV		Exhibits	Bul.	Cir.	Infest. Maps & Posters	
Arkansas	23	23	16	0	3	0	2	1	500	14,000	0	0
Florida	--	-	1	-	-	-	-	-	-	-	-	-
Georgia	--	-	-	-	-	-	-	-	-	13	-	-
Louisiana	5	5	5	0	2	2	8	0	65	4,350	1,500	0
Oklahoma	1	1	-	-	-	-	1	-	-	1	-	1
Tennessee	--	-	-	-	-	-	-	-	50	-	-	-
Texas	65	27	24	11	11	4	111	-	22	1,238	540	1
Total	94	56	46	11	16	6	122	1	637	19,602	2,040	2

PINK BOLLWORM CONTROL

• • •

PROGRAM ANNUAL REPORT
1959 FISCAL YEAR

• • •

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
WESTERN REGION

_____

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
WESTERN REGION

ANNUAL PROGRAM REPORT

PINK BOLLWORM CONTROL

July 1, 1958 - June 30, 1959

In cooperation with
County, State, and Federal Agencies
and with private organizations

December 1, 1959

Oakland, California

Jim R. Dutton

Regional Supervisor

TABLE OF CONTENTS

HIGHLIGHTS OF YEAR'S PROGRAM ACTIVITY

Accomplishment for the Fiscal Year

Early in July 1958, the pink bollworm was found in southwest Maricopa County, Arizona, the most westerly point it had ever reached in that State. Discovery of the pink bollworm in Arizona's main cotton-producing area led to an acceleration in all phases of the program. Surveys to delimit infestations were intensified through an increase in light trap operations, gin trash and lint cleaner examinations, and field inspections of blossoms and green bolls in the cotton-producing areas of Arizona, California, and Nevada. The usual task of lint cleaner inspection and confirmatory field inspections was continued in the State of New Mexico. Soon after the initial finding of worms in southwestern Maricopa County, Arizona, a cooperative farmer-state-federal chemical control program was inaugurated. Aerial dusting was accomplished during July, August, and September 1958 on some 11,000 acres in the Gila River Valley, the Rainbow Valley, and the Liberty locality. Eight to ten applications were applied at weekly intervals in the course of these operations. Following the harvest of cotton in these areas, a program was developed involving stalk shredding and compulsory plow-under to meet a set deadline. Surveys made during the fall and winter of 1958 further disclosed a general and widespread infestation in the cotton-growing areas of central Arizona. Aerial spraying and dusting operations were reinstituted in May 1959 on a total of 75,000 acres in Maricopa, Pinal, Pima, and Graham Counties. The application plan called for treatments of this acreage at 6-day intervals. Six treatments had been made by the close of the fiscal year.

The Arizona discovery was cause for a greatly stepped-up detection schedule in California and Nevada. This enhanced activity included the operation of approximately 79 argon light traps. In Nevada inspection effort was limited to boll inspection and light trapping. California's expanded program included the operation of six gin trash machines, lint cleaner inspections, numerous bloom and boll inspections, and the operation of light traps. As of June 30, 1959, no indication of a pink bollworm infestation had been found in either of these two states. New Mexico confined its program to cotton gin lint cleaner inspection and a voluntary stalk destruction program in cotton-growing areas adjacent to Arizona. All control and eradication efforts in the Western Region have been well supported by appropriate quarantine and regulatory measures.

Major Deviation from Work Plan

Finding of pink bollworms in central Arizona led to a complete revision of plans and an intensification of all phases of survey, regulatory, and control activities, both insecticidal and cultural. Emphasis was given to the prevention of spread and eradication of pink bollworms from the central cotton-producing areas of the State. This greatly increased work-load brought about redistricting of the State and an appropriate geographic relocation of personnel. The impact of finding pink bollworms in southwestern Maricopa County, Arizona caused California officials to immediately request a stepped-up cooperative detection survey program in that state. Two survey techniques not previously incorporated in the California program were use of the argon light trap and lint cleaner inspections. Approximately 75 argon light traps were put in use as soon as they could be manufactured and shipped to California. Lint cleaner inspections were started with the beginning of the ginning season. Six gin trash machines previously operated in California were not deemed adequate in the face of the nearness of known pink bollworm occurrence in southwestern Maricopa County; hence, two additional gin trash machines were procured. Bloom inspection and boll cutting were likewise stressed by State and County Departments of Agriculture, and those activities materially increased during the growing season.

In Nevada where previous pink bollworm survey activity had consisted of very limited bloom and boll inspection, six argon light traps were put in use and plans were made for inspection of gin trash on the 1959 crop.

New Mexico pink bollworm activity remained normal.

Status of Program at Close of Year

Progress was made toward attainment of the major objectives of the Arizona program in fiscal year 1959. Grower cooperation on cultural control was good and results were considered adequate. The 1959 insecticidal phase of the eradication program was still in progress at the close of the year in Maricopa, Pinal, Pima, and Graham Counties, Arizona. The seventh of eight applications on 75,000 acres of cotton had begun at the close of fiscal year 1959. Bloom inspections were started in June and were to continue into July 1959. Gin trash, lint cleaner, and field inspections were to follow to determine the success of eradication efforts in central Arizona during the first full year and to locate areas requiring treatment later in the summer or in the spring of 1960.

A small area in the Rio Grande River Valley in southern New Mexico has a fairly heavy infestation which has persisted for several years. It may be that conditions in this area are especially favorable for pink bollworm development or that the insect is gradually becoming adapted to local climatic conditions.

Our pink bollworm activity in California and Nevada was limited to detection, since the pest has not been found in the cotton-growing areas of these two States. Both States increased their detection efforts sharply during this fiscal year.

PROGRAM ACTIVITY DURING FISCAL YEAR

Planning and Direction

How planned and directed

Pink bollworm control is a cooperative program among the State Departments of Agriculture in the States of New Mexico, Nevada, Arizona, and California, and in California with the County Agricultural Commissioners and the Plant Pest Control Division. Industry was especially active in Arizona, where organized farmers and processors contribute financially and fully to the joint effort. Planning and direction was accomplished between appropriate state officials and our State Supervisors, and in California between these same officials and the County Agricultural Commissioners. Local operations were planned and executed under delegated authority in a manner that would best fulfill over-all statewide objectives. In order to coordinate the contracted application of insecticides in Arizona, a "Control Board" comprised of one representative each from the Arizona Cotton Growers Association Pink Bollworm Committee, the Arizona Commission of Agriculture and Horticulture, and the Plant Pest Control Division was designated and given final authority in contract enforcement.

Technical Assistance

Technical assistance provided to farmers and others by program personnel

Technical assistance was provided to the cotton industry and to farmers by State and Plant Pest Control Division personnel. Supervisors made repeated visits to regulated

processing establishments; advised on the installation and maintenance of approved seed sterilization equipment, and advised concerning the maintenance of proper plant sanitation. Farmers, through direct contact, were counseled in regulatory matters, timely cultural control practices, problems relative to insecticidal control of the insect, its biology, and its habits.

Technical assistance provided to program by cooperating agencies

Cooperators in the Pink Bollworm Program gave freely of their time in the all-out effort to eradicate the insect from the cotton-producing areas of central Arizona. Full cooperation was extended by cotton farmers and industry through the Arizona Cotton Growers Association; research personnel of Agricultural Research Service--Entomology Research Division, Agricultural Engineering Research Division, and Crops Research Division; the Arizona Commission of Agriculture and Horticulture; the University of Arizona Experiment Station and Extension Service; the Arizona Corporation Commission; the Federal Aviation Administration; and the press. Without full support on the part of all agencies concerned, the year's objectives could not have been so successfully accomplished.

The Bureau of Entomology, California State Department of Agriculture, did all the technical work in connection with the identification of the very large number of insects collected in California argon light traps, gin trash machines, and from blooms and bolls.

State Department of Agriculture, Experiment Station, and Extension Service employees in all of our cotton-growing states advised farmers and our employees on matters involving pink bollworm control and detection.

Survey

Procedures or techniques used

Survey techniques used included argon and black light trap operation and bloom, boll, field, gin trash machine, and lint cleaner inspections.

Accomplishments

Even though survey was emphasized, intensified, and expanded over past years, it is gratifying to report that the cotton-growing areas of California and Nevada and of Yuma and Mohave Counties, Arizona apparently remain free of the pink bollworm. For the 1958 cotton season Arizona reported 99,000 bushels of trash run through gin trash machines and the recovery therefrom of some 13,000 larvae. Lint cleaner examinations totaled 15,000, revealing about 4,000 larvae.

Eighty-nine argon and black light traps were operated and 731 pink bollworm moths were taken between August and November 1958. Twenty of these moths were caught outside the area originally known to be infested. Field inspections subsequently disclosed infested fields in the near proximity of all of these moth-find locations. Trapping was resumed in March 1959 and was mainly concentrated in peripheral areas around the 1958 infested acreage and in Yuma County. A total of 117 traps was in use on June 30, 1959. Only four moths had been recovered in the traps at that time. All four catches were made in traps located outside the 1959 treatment areas. Tentative moth determinations by program personnel at Phoenix were later verified at the Brownsville, Texas Research Laboratory. Gin trash and lint cleaner larval recoveries in the 1958 ginning season were immediately followed by intensive field inspections to pinpoint infested fields. These data were the basis for determining extent of the cotton acreage to be treated in the 1959 insecticidal program.

Statement of crop losses

Crop losses are difficult to determine. Yields in heavily-infested pink bollworm areas were reportedly reduced by as much as one-third to three-fourths of a bale per acre. Lower grades of cotton were harvested in heavy pink bollworm-infested fields in Arizona. Due to unfavorable weather conditions and the late harvesting of the New Mexico crop in much of the heavily infested area, an accurate estimate of loss could not be made for that area.

Eradication or Control

Procedures or techniques used

Procedures were unchanged from previous years in New Mexico, where all cotton is considered to be generally infested. The eastern Arizona counties are considered to be generally infested. Cotton growers in those counties operated under the plow-up and planting regulations established by the State of Arizona in the fall of 1958. No insecticide control work, other than experimental, was done there during the season.

During the limited program to control pink bollworm in Arizona in the fall of 1958, DDT dust was applied by aircraft. On small experimental areas Sevin dust and Guthion plus DDT dust were also applied.

In the insecticide program started in the spring of 1959, about 1,000 acres were treated by ground sprayer and 74,000 acres by aircraft; nearly 30,000 acres of this total were dusted; the remainder was sprayed. DDT was the insecticide used. On the first 4 treatments each acre received 2 pounds technical DDT, on the last 4 treatments, 3.75 pounds.

All approved cultural control practices were recommended to growers in Arizona. Compulsory cultural control measures included the prohibition of stubbing, a plow-up deadline date, a specified planting date, and the prohibition of allowing voluntary cotton to propagate. Twenty Brady stalk shredders owned by Plant Pest Control Division were made available to cotton growers on a temporary basis.

Accomplishments

Details of accomplishments appear in table form in this report.

The 1958-59 Arizona cultural and chemical control programs yielded very satisfactory results. At the close of June 1959 no larvae had been found and only four pink bollworm moths had been caught in light traps. All were outside the treatment area. Exact status of the current infestation will not be known until completion of harvest of the 1959 cotton crop; however, all cooperators are extremely satisfied with progress to date.

Voluntary cultural control recommendations were followed on approximately 1400 acres of cotton in the Virden Valley and Rodeo areas of Hidalgo County, New Mexico in an area adjacent to Arizona. This work supported a similar effort by southeastern Arizona farmers growing cotton on adjacent lands.

Regulatory

Procedures or techniques used

Regulatory procedures as prescribed in Federal Domestic Quarantine No. 52 and State quarantines of the infested states in the Western Region were followed.

Accomplishments

Regular inspections were made of gins and other processing plants to insure the proper handling of cotton and cotton products. In Arizona, gins in areas brought under quarantine installed seed sterilizing equipment and gin trash disposal fans as rapidly as possible.

Other measures taken to prevent pink bollworm dispersal included gin, field, turnrow, and roadside sanitation work; collection and burning of cottonseed dropped along roadsides by trailers traveling to and from gins; and the covering of cotton trailers to prevent roadside spillage. A large volume of regulated products was treated and certified for interstate movement during the 1958-59 season.

Methods Improvement

Work performed

Improved types of gin trash machines and light traps were utilized in survey efforts, as were improved procedures supporting these measures. Means were devised to handle countless numbers of problems in contracting and operating the extremely large treatment programs.

A continued search for better ways of carrying out the day-to-day assignments was conducted. Beltsville pilot personnel aided greatly by assisting in the conduct of aerial application.

Accomplishments

Gin trash machines have been improved and made safer to operate by installing guards over exposed belts. Limited experiments with timers, which control the daily illumination periods of the argon light traps, indicate that the traps can be operated more cheaply and the quality of the catch improved by installing time switches on each trap. Vastly improved inverters for battery-operated light traps also conserved servicing time and reduced operating costs. Improved techniques for checking quarantine compliance effected savings in time and brought about better quarantine enforcement.

Other

Cooperation received during fiscal year

State Departments of Agriculture in the cotton-growing States of New Mexico, Nevada, Arizona, and California assisted on all phases of the program. In Nevada and California, assistance was in the form of personnel engaged in survey for the pest. The California and Arizona cotton growers are ready and willing to assist at any time their services are needed. In New Mexico cooperation was furnished by the State Department of Agriculture on regulatory activities and volunteer cultural control; the State Extension Service and the County Agent of Hidalgo County rendered similar service.

All agencies concerned with cotton production in Arizona gave their fullest cooperation in the pink bollworm eradication effort. Especially helpful was the moral and financial support extended to the program by the Arizona Cotton Growers Association and related organizations in the cotton industry. The Arizona Commission of Agriculture and Horticulture contributed financial support and personnel to all phases of the program. Extension Service personnel materially aided in the dissemination of information and in conducting and assisting at public meetings. The University of Arizona gave full cooperation through the conduct of biological studies and gave active support to the eradication effort. Entomology Research Division personnel rendered valuable assistance in advising on the planning, timing, and carrying out of surveys and on the cultural and insecticidal phases of control. Valuable aid was rendered by Agricultural Engineering Research personnel through provision of improved light traps and battery-operated light trap inverters.

Associated activities and services

Program servicing

Broad usage was made of slides, films, exhibits, and publications in public meetings and Plant Pest Control Division training programs.

RECOMMENDATIONS FOR COMING YEAR

Survey

Prescribed survey methods appear fairly adequate, but an expansion in the amount of that work is indicated for fiscal year 1960. It is presumed that cultural and chemical control work accomplished in fiscal year 1959 materially reduced pink bollworm infestations in central Arizona; consequently, infestations of a light nature will be more difficult to locate. Lightly infested and widely scattered cotton plantings will require intensification of all survey measures to locate these fields.

Further investigative work is suggested to develop more specific biological data concerning the behavior of the pink bollworm under Arizona climatic and cropping conditions. Of great importance would be:

1. Development of additional pink bollworm attractant for use in trapping operations.

2. Development of a practical method for decreasing the catch in light traps of insects other than pink bollworm moths.

3. Development of improved methods to be used in field inspections.

4. Development of an evaluation guide for use in determining economic effects of pink bollworm on yield and/or quality of the cotton it may infest.

5. Development of a superior control chemical.

6. Studies to determine the comparative value of gin trash inspection versus lint cleaner inspection.

Eradication

It is recommended that the presently acceptable cultural and chemical control measures be extended through fiscal year 1960 in Arizona, that additional suppression work be done in eastern Arizona and in New Mexico (at least in western New Mexico), and that New Mexico promote all approved cultural control practices in their heaviest pink bollworm areas. It is recommended that all treatment work next year be done as a spray.

Regulatory

Reinstigate heat treatment of seed as a continuous process of ginning throughout the pink bollworm infested area.

Methods Improvement

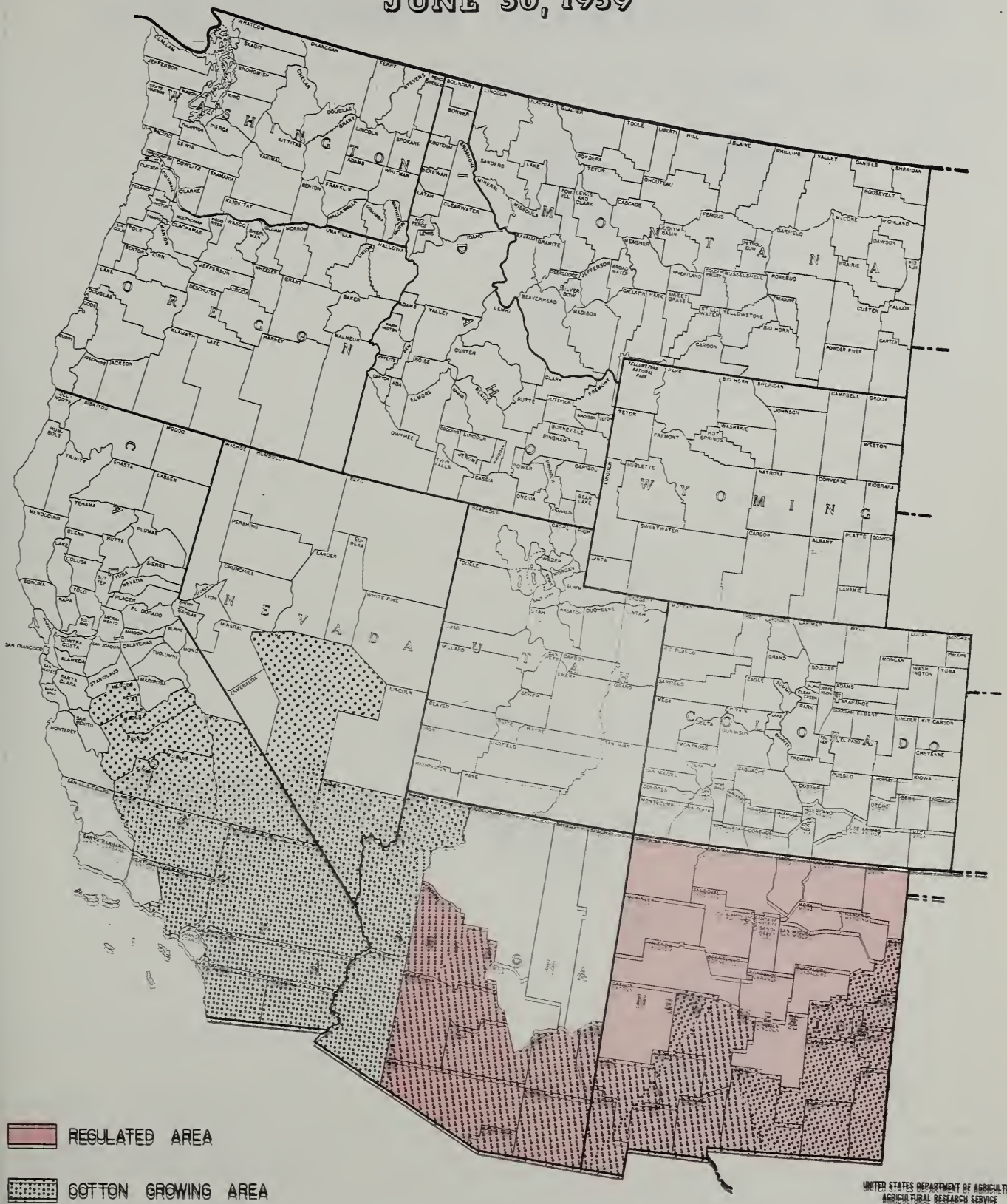
Owners of gins without adequate facilities for collection of gin trash should be encouraged to install such equipment; cotton farmers should be encouraged to procure better shredding and plowing equipment.

Other

Further studies are needed to determine pink bollworm survival in native Thurberia plants. It is recommended that California take strong measures to eliminate the practice of stubbing.

PINK BOLLWORM CONTROL PROGRAM

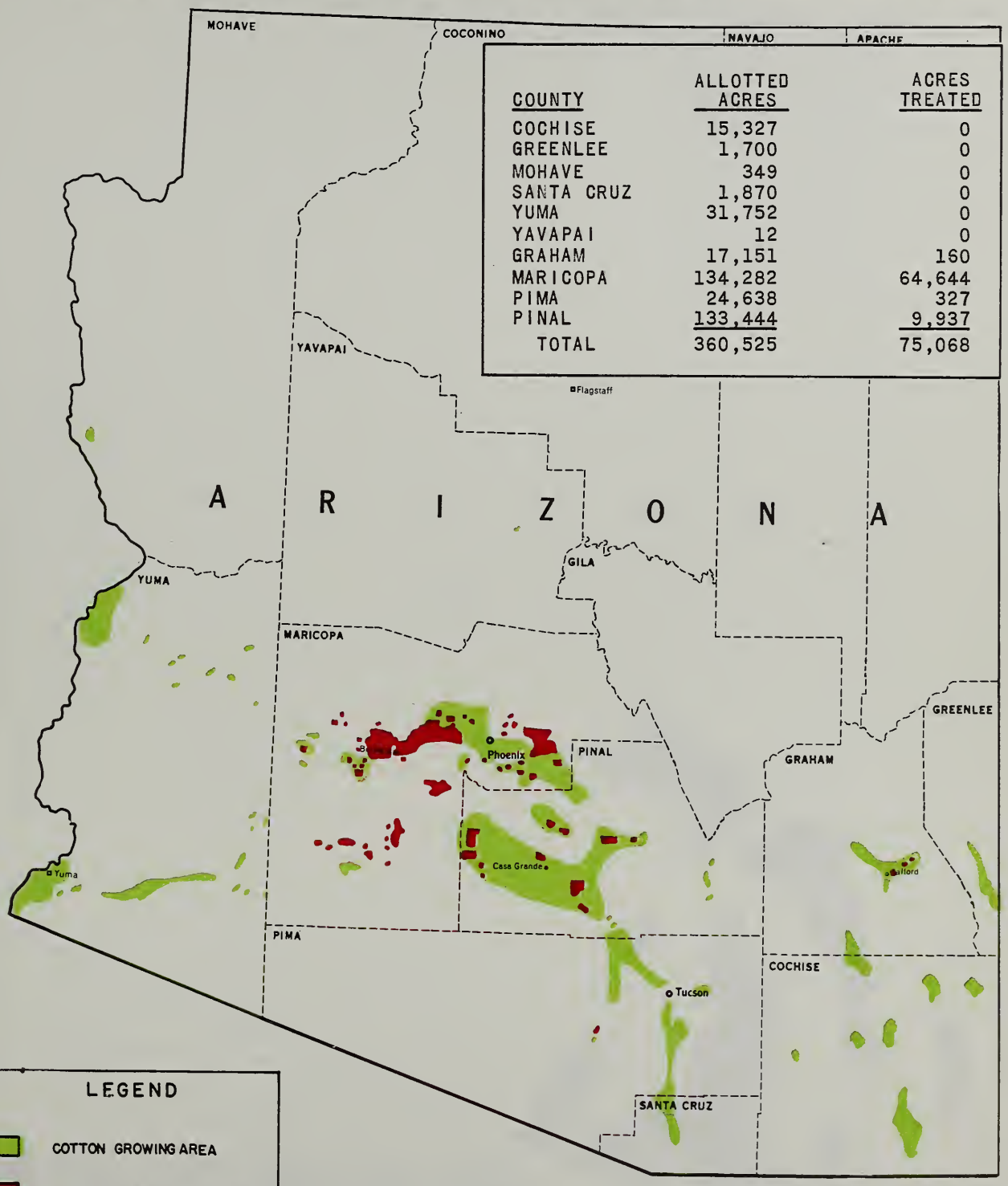
JUNE 30, 1959



UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
WESTERN REGION
OCTOBER 1959

GPO 979102

PINK BOLLWORM ERADICATION - 1959

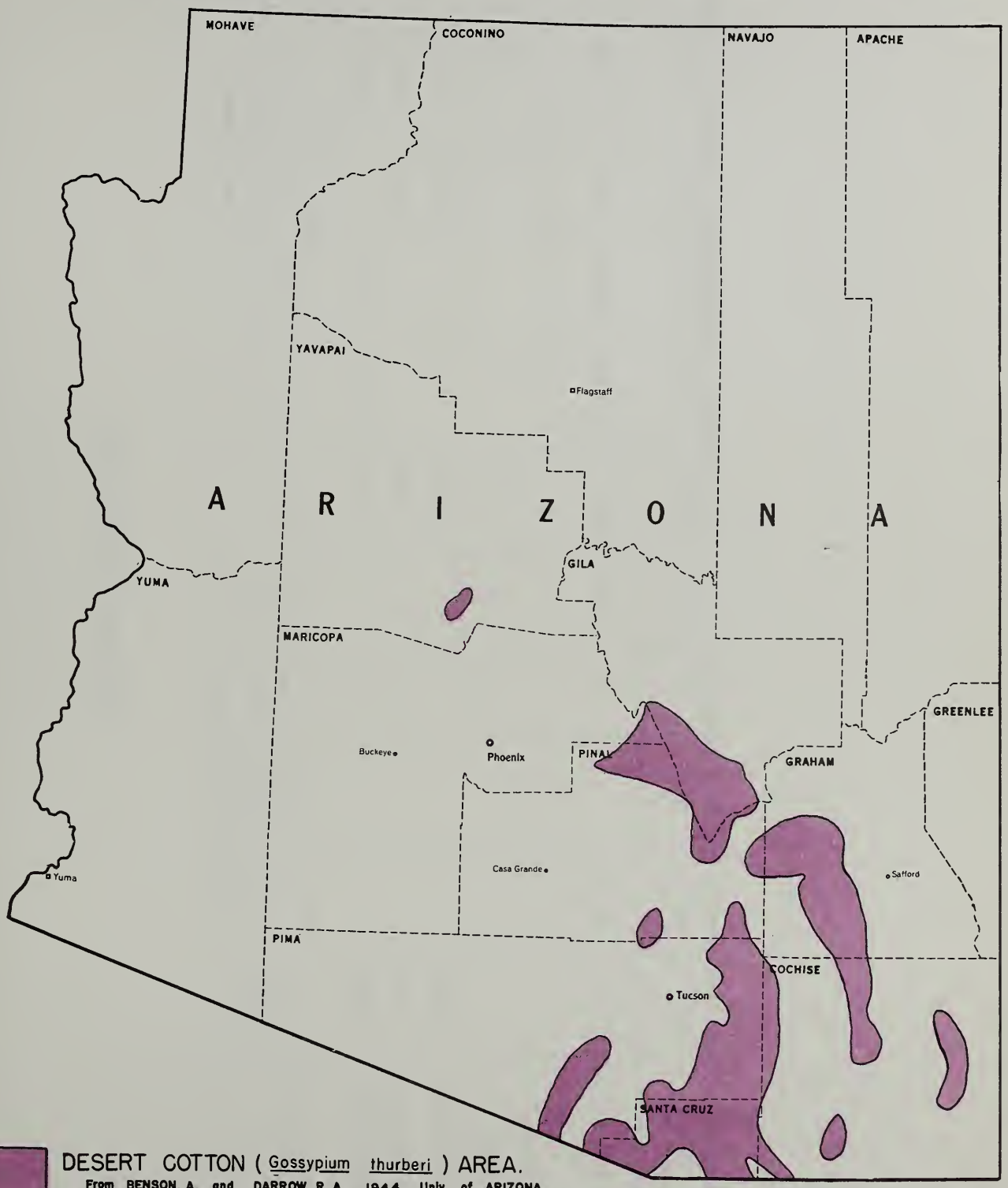


COUNTY	ALLOTTED ACRES	ACRES TREATED
COCHISE	15,327	0
GREENLEE	1,700	0
MOHAVE	349	0
SANTA CRUZ	1,870	0
YUMA	31,752	0
YAVAPAI	12	0
GRAHAM	17,151	160
MARICOPA	134,282	64,644
PIMA	24,638	327
PINAL	133,444	9,937
TOTAL	360,525	75,068

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
WESTERN REGION

GPO 978848

DESERT COTTON



DESERT COTTON (Gossypium thurberi) AREA.
From BENSON, A. and DARROW, R. A., 1944. Univ. of ARIZONA BIOLOGICAL SCIENCE Bul. 6: PLATE 84.

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
WESTERN REGION
OCTOBER 1959

GPO 979175

Pink Bollworm

ARIZONA PBW INSECTICIDE PROGRAM

Fiscal Year 1959

Location	When Treated	Accumulated Acreage Treated					TOTAL	Cost (Dollars)					No. of Applications
		Aerial Application				Ground DDT Spray							
		DDT Dust	DDT Spray	Guthion-DDT Spray	Sevin Dust			Growers	State	PPC	Total	Average Cost/Acre	
Gila Valley	7/22-9/26-58	37,540	-	-	-	-	37,540	52,448	52,448	0	104,896	2.80	10
Liberty	8/27-10/1-58	9,488	-	-	-	-	9,488	0	0	23,553	23,553	2.48	8
Rainbow Valley	8/25-10/1-58	50,468	-	-	-	-	50,468	0	0	130,544	130,544	2.59	8
Liberty	9/4-19/58	-	-	-	396	-	396	0	0	2,594	2,594	6.55	4
Gila Valley	9/8-29/58	-	-	464	-	-	464	789	0	1,972	2,761	5.95	4
Graham, Maricopa, Pinal, Pima Counties	5/15-7/19-58	225,091	342,370	-	-	7,314	574,775	361,382	372,621	719,693	1,453,696	2.53	8
GRAND TOTAL	Fiscal Year 1959	322,587	342,370	464	396	7,314	673,131	414,619	425,069	878,356	1,718,044	-	-

SUMMARY OF ASSOCIATED ACTIVITIES

Pink Bollworm

Fiscal Year 1959

State	Public Meetings Attended	Presentations					Feature & News Stories*	Extent These Aids Were Used				Special Reports
		Talks	Slides	Films	Radio	TV		Exhibits	Bul*	Cir.*	Infest.Maps & Posters	
Arizona	17	10	2	1				2		4000		
California	4	4										
Nevada	1	1										2
Total	22	15	2	1				2		4000		2

* Written by Federal personnel for release direct or through cooperators.

PINK BOLLWORM INSPECTIONS AND SURVEYS

Pink Bollworm

Fiscal Year 1959

State	Gin Trash		Lint Cleaner		Bolls		Blooms		Light Traps			Inspected		Infested	
	Number		Number		Number		Number		Traps in Use	Trap Servicings	No. PBW Moths	Locs.	Acres	Locs.	Acres
	Bu.	PBW	Insp.	PBW	Bolls	PBW	Blooms	PBW							
Arizona	99,040	13,428	14,600	3,944	423,439	821	5,742,706	30	117	12,370	731	a/ 29,346	b/ 394,523	c/ 1,446	d/ 61,627
California	34,333	0	9,192	0	341,325	0	4,040,420	0	100	3,943	0	1,176	628,790	0	0
Nevada	0	0	0	0	10,000	0	0	0	6	540	0	18	2,684	0	0
New Mexico	0	0	125	908	0	0	0	0	0	0	0	62	82,840	57	77,189
Total	133,373	13,428	23,917	4,852	774,764	821	9,783,126	30	223	16,853	731	30,602	1,108,837	1,503	138,816

a/ Within and outside regulated area.
b/ 363,213 acres within regulated area; 31,310 outside regulated area.
c/ Includes 373 infested locations within eradication area in Central Arizona.
d/ Includes 32,572 cotton allotment acres in Cochise, Graham and Greenlee Counties, all considered to be generally infested.

EXPENDITURES BY SOURCE AND BY ACTIVITY

Pink Bollworm

Fiscal Year 1959

	1	2	3	4	5	6	7	8
Source of Cash & Equivalent*	Planning & Direction	Technical Assistance	Survey	Control	Regulatory	Methods Improvement	Other	Total
Plant Pest Control Division	$46,500	$15,000	$218,900	$1,030,000	$53,400	$8,000	$5,000	$1,376,800
Other Organizations (Name)								
State Depts. of Agriculture	6,900	7,700	20,000	388,400	23,900	300	300	447,500
County Depts. of Agriculture	3,500		14,000		12,500			30,000
Arizona Cotton Growers				290,400				290,400
Subtotal-Other Organizations	10,400	7,700	34,000	678,800	36,400	300	300	767,900
Total (of PPC & Other)	56,900	22,700	252,900	1,708,800	89,800	8,300	5,300	2,144,700
Contributed Services**								
State Depts. of Agriculture	1,100	100	800		22,800	300		25,100
County Depts. of Agriculture	200	200						400
Arizona Cotton Growers				10,000				10,000
Total	1,300	300	800	10,000	22,800	300		35,500
Grand Total	$58,200	$23,000	$253,700	$1,718,800	$112,600	$8,600	$5,300	$2,180,200

* Limited to direct appropriation, allotments from other sources, services and supplies for which there is an actual cash expenditure.

** Limited to services incidental to other activities for which only an estimated value is available.

COOPERATIVE AID RECEIVED

Pink Bollworm

Fiscal Year 1959

	1	2	3	4	5	6	7	8
State and Source of Aid	Cash and Equivalent Aid*				Total of Cash & Equivalent	Intangible Service Estimate**	Source Grand Total	Remarks
	Cash	Personal Services	Equipment & Supplies	Space				
Arizona Comm. of Agric. & Hort.	$	$13,100	$388,400	$	$401,500	$24,600	$426,100	
Arizona Cotton Growers Assn.			290,400		290,400	10,000	300,400	
Calif. State Dept. of Agriculture		42,900			42,900		42,900	
Calif. County Depts. of Agric.		30,000			30,000		30,000	
Nevada State Dept. of Agriculture		2,800	100		2,900		2,900	
New Mexico State Dept. of Agric.		200			200	500	700	
New Mexico Counties						400	400	
Total	$	$89,000	$678,900	$	$767,900	$35,500	$803,400	

* Limited to direct appropriation, allotments from other sources, services and supplies for which there is an actual cash expenditure.

** Limited to services incidental to other activities for which only an estimated value is available.

GPO 979545

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
SOUTHERN REGION

ANNUAL PROGRAM REPORT

POTATO PSYLLID & BEET LEAFHOPPER

July 1, 1958 - June 30, 1959

In cooperation with other
Federal, State, County, and Local Agencies

November 13, 1959
Gulfport, Mississippi

C. C. Fancher
Regional Supervisor

I. Highlights of Year's Program Activity

A. Accomplishment for the fiscal year

A survey was made for beet leafhopper and potato psyllid to estimate the population of each that overwintered in the western and southwestern sections of Texas. The beet leafhopper is a carrier of a virus disease of sugar beets called "Curly Top" which also affects beans, spinach, and many other plants.

The potato psyllid is a carrier of a disease called "Psyllid Yellows." This is a disease of potato and other solanaceous species. An estimate on the number of overwintering beet leafhopper and potato psyllids as found in the western and southwestern sections of Texas can be used to anticipate the damage that may be caused by "Curly Top" and "Psyllid Yellows" in the central states, east of the Continental Divide.

B. Major deviation from Work Plan, if any

None.

C. Status of Program at close of year

Survey work completed in February and March.

II. Program Activity during fiscal year

A. Planning and Direction

1. How planned and directed

Survey work was conducted over much of the same geographical area as that conducted in previous years. Many of the survey stops were the same as those made in previous years for the purpose of making comparisons from year to year. The State Extension Entomologist participates in the surveys.

B. Technical Assistance

1. Technical assistance provided to farmers and others by program personnel

None.

2. Technical assistance provided to program by cooperating agencies

State Extension Services cooperated with program personnel in outlining survey activities and participating in the survey.

C. Survey

1. Procedures or techniques used

The survey is usually conducted in February and March before northern migration of the insects occur. For beet leafhopper survey, sweep nets were used, and the general procedure was to take ten sweeps per stop, spacing the stops at or near 20 mile intervals.

In potato psyllid survey, sweep nets are used,and counts are recorded in number of psyllids per 100 sweeps.

2. Accomplishments

The beet leafhopper survey began on March 2 near Sonora, Texas, and was completed on March 19 near Anson, Texas. The surveys covered the following counties: Tom Green, Schleicher, Sutton, Edwards, Real, Uvalde, Zavala, Maverick, Val Verde, Terrell, Pecos, Brewster, Presidio, Jeff Davis, Culberson, Hudspeth, El Paso, Reeves, Ward, Crane, Ector, Midland, Taylor, Coke, Dawson, Gaines, Yaokum, Cockran, Bailey, Palmer, Deaf Smith, Randall, Carson, Gray, Roberts, Ochiltree, Hemphill, Wheeler, Donley, Collingsworth, Briscoe, Floyd, Crosby, Dickens, King, Stonewall, Kinney, and Jones.

A total of 104 survey stops spaced at or near 20-mile intervals was made, and 286 beet leafhoppers were found during the survey, making an average of 5.5 per 100 sq. feet. Last season, 21 beet leafhoppers were found per 100 sq feet. Last year there was a heavy infestation in the immediate El Paso area which was not the case this year. The following sections appeared to be somewhat heavier this season than last year: Dryden, Sanderson, Imperial, Grand Falls, and Bakersfield. Apparently, the main breeding area of the beet leafhopper is a triangle formed by the cities of Monahans, Clint, and Dryden.

Most of the host plants of the beet leafhoppers in Texas are: Bladder pod, filaree, flixweed, pepperweed, town mustard, Russian thistle, black mustard, Milkweed, Mousetail, and patata. Host plants of the beet leafhoppers were found at 72 percent of the stops made during the survey. Beet leafhoppers were found at 39 percent of the stops made.

Potato psyllids were found at the rate of 63 per 100 sweeps. Some of the wild host plants of the potato psyllid are wild matrimony vine, and tarbush or blackbush. A comparison of the potato psyllid surveys in 1959 and 1958 is shown in the attached tables.

3. Statement or table of pest damage

Not applicable.

D. Eradication or Control

1. Procedures or techniques used

Not applicable.

2. Accomplishments

Not applicable.

E. Regulatory

1. Procedures or techniques used

Not applicable

2. Accomplishments

Not applicable.

F. Methods Improvement

1. Work Performed

Not applicable

2. Accomplishments

Not applicable

G. Other

1. Cooperation received during fiscal year

Other than State Extension personnel, none.

2. Associated activities and services

None.

III. Recommendations for coming year

A. Survey

It is recommended that the survey work be continued.

B. Eradication or control

None.

C. Regulatory

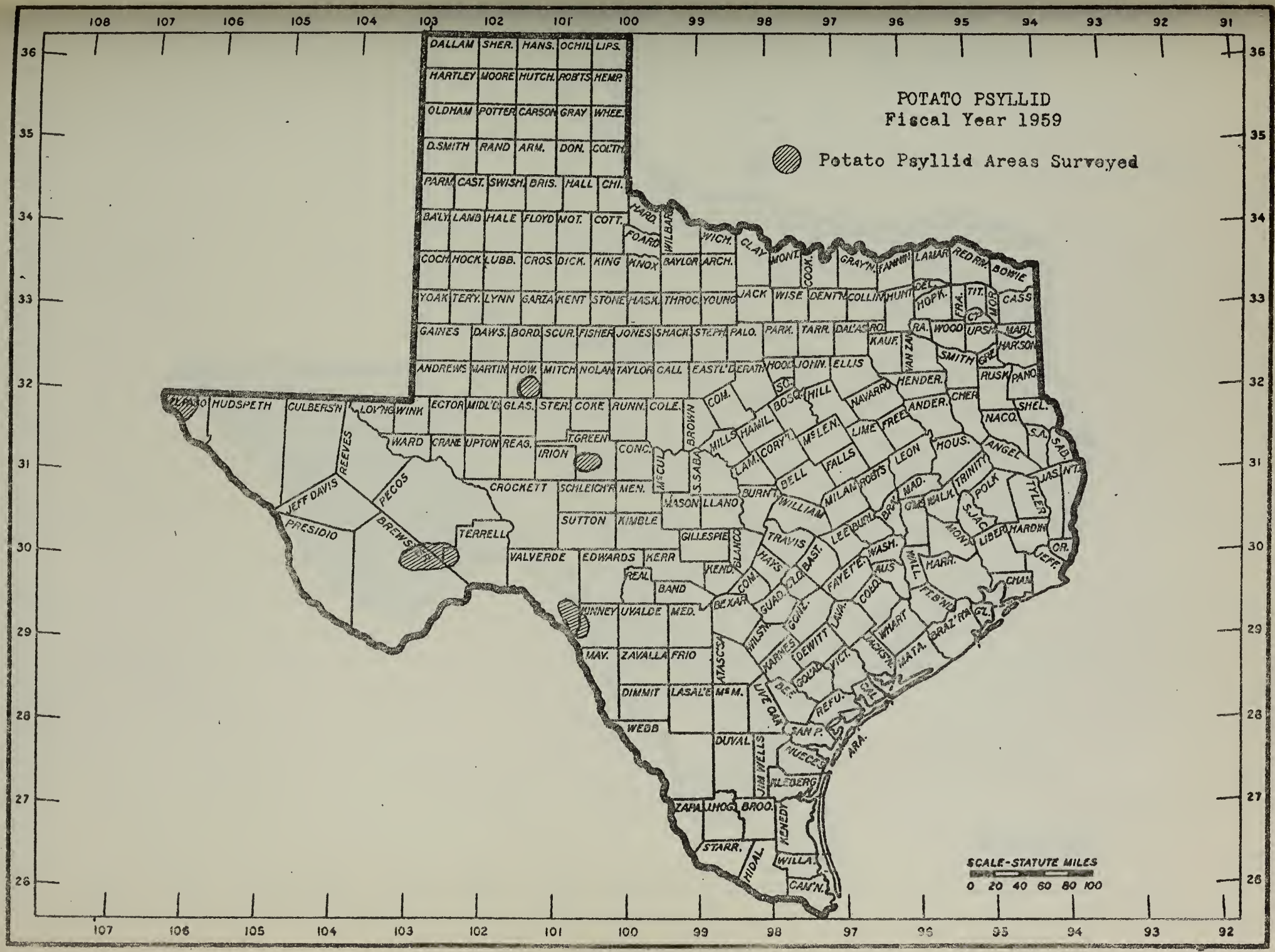
None.

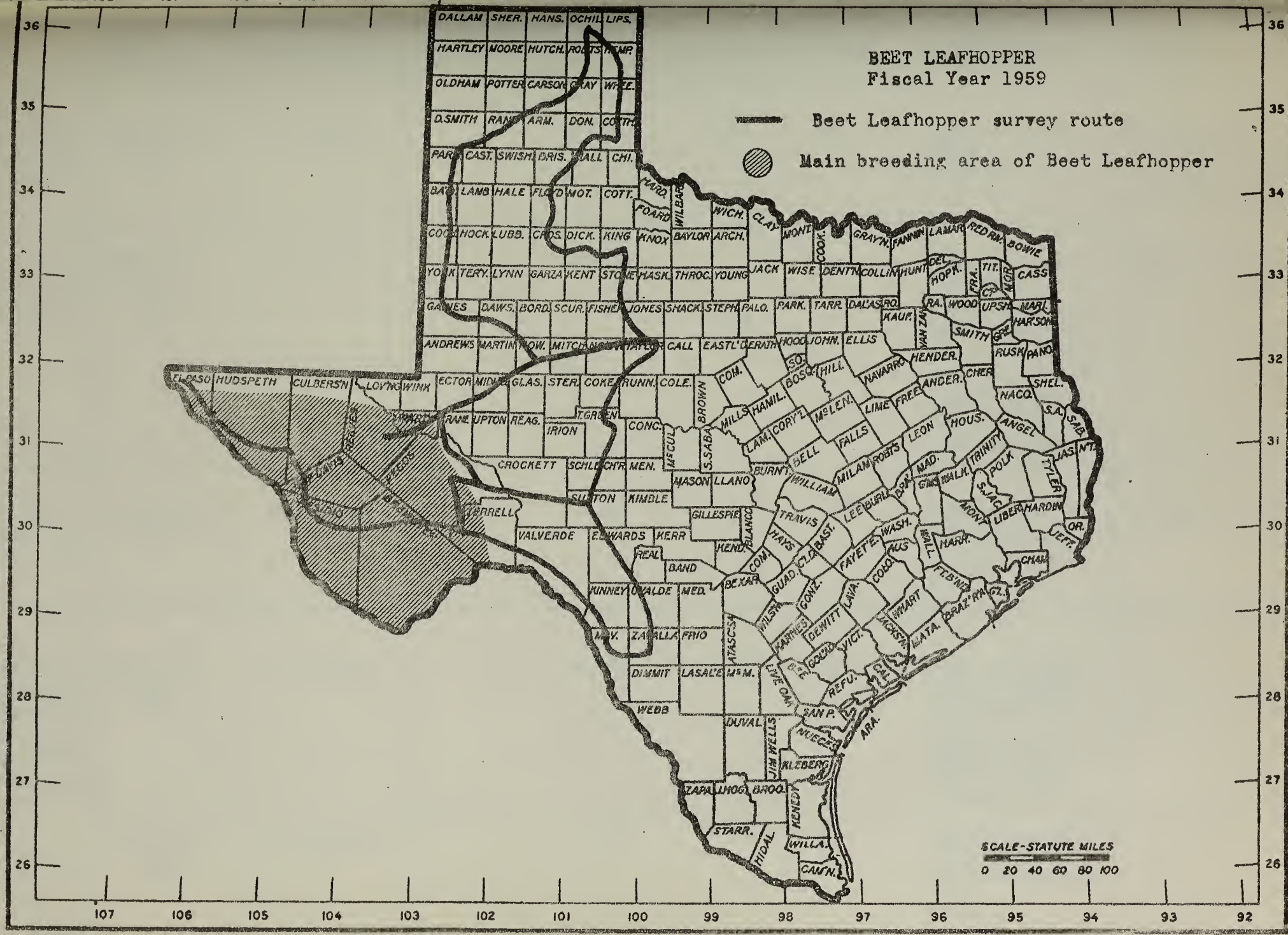
D. Methods Improvement

None.

E. Associated Activities

None.


POTATO PSYLLID
Fiscal Year 1959
Potato Psyllid Areas Surveyed
SCALE-STATUTE MILES
0 20 40 60 80 100


BEET LEAFHOPPER
Fiscal Year 1959
Beet Leafhopper survey route
Main breeding area of Beet Leafhopper
SCALE-STATUTE MILES
0 20 40 60 80 100
DALLAM
SHER.
HANS.
OCHIL.
LIPS.
HARTLEY
MOORE
HUTCH.
OLDHAM
POTTER
CARSON
GRAY
D.SMITH
ARM.
DON.
CAST.
SWISH.
DRIS.
LAMB
HALE
FLOYD
MOT.
COTT.
HARD.
FOARD
WILBAR.
WICH.
CLAY
MONT.
COOK.
GRAY N.
FANNIN
LAMAR
RED RIV.
BOWIE
HOCK.
LUBB.
DICK.
KING
KNOX
BAYLOR
ARCH.
TERY.
LYNN
GARZA
KENT
STONE
HASK.
THROC.
YOUNG
JACK
WISE
DENTN.
COLLIN
HUNT.
DEL.
HOPK.
FRA.
TIT.
CASS
DAWS.
BORD.
SCUR.
FISHER
JONES
SHACK.
STEPH.
PALO.
PARK.
TARR.
DALLAS
RO.
KAUF.
RA.
WOOD
UPSH.
MARI.
HARSON
ANDREWS
MARTIN
HOW.
MITCHELL
CALL
EASTL'D
ERATH
HOOD
JOHN.
ELLIS
VAN ZAN.
SMITH
GRE.
RUSH
PANO.
EL PASO
HUDSPETH
CULBERSN
LOVING
WINK
ECTOR
MIDL.
GLAS.
STER.
COKE
RUNN.
COLE.
CON.
BROWN
BOSQ.
HILL
NAVARRO
HENDER.
CHER.
SHEL.
NACO.
RANE
UPTON
REAG.
IRION
T.GREEN
CONC.
McCUL.
S.SABA
MILLS
HAMIL.
LAM.
CORY'L
McLEN.
LIME
FREE
ANDER.
HOUS.
ANGEL
S.A.
SAB.
CROCKETT
SCHLEICH'R
MEN.
BURNT.
BELL
FALLS
LEON
ROBTS
MILAM
MAD.
TRINIT.
POLK
JAS.
NT.
TYLER
MASON
LLANO
WILLIAM
GRAY
WALK.
S.JAC.
SUTTON
KIMBLE
GILLESPIE
BLANCO
TRAVIS
LEEBURL.
BRA.
MONT.
LIBER.
HARDIN
JEFF.
OR.
TERRELL
VALVERDE
EDWARDS
KERR
HAYS
CLABAST.
FAYET'E.
WASH.
AUS.
WALL.
HARR.
CHAM.
REAL
KEND.
BAND
COM.
BEXAR
GUAD.
COLO.
FT.B'ND
BRAZ'RIA
GL.
KINNEY
UVALDE
MED.
WILSN.
GONZ.
LAVA.
WHART.
MATA.
MAV.
ZAVALLA
FRIO
ATASCSA
WARNES
DEWITT
MCKSN.
DIMMIT
LASALLE
McM.
LIVE OAK
GOLIAD
VICT.
REFU.
CALH.
BEE
WEBB
SAN P.
NUECES
ARA.
DUVAL
JIM WELLS
KLEBERG
ZAPA.
LMOG.
BROO.
KENEDY
STARR.
HIDAL
WILLA.
CAM'N.

Area	Date Surveyed	No. ten sweep samples taken	Total Number Psyllids (based on 100 sweep samples)	Psyllids per 100 sweeps	Condition of Host Plants	Remarks
Area 1 Big Spring (Howard County)	March 26, 1958	60 Samples	13,610	227	100% of plants Good - all leafing	Approximately 4 inches of rainfall since Jan. 1 Lycium abundant
Area 2 San Angelo (Tom Green County)	March 24, & 27, 1958	75 Samples	16,400	219	27% of plants Excellent - heavy foliage. 46% of plants Good - foliage not yet mature. 27% of plants Fair - foliage just appearing.	Lycium abundant
Area 3 Del Rio (Val Verde County)	March 19, 1958	75 Samples	10,080	134	100% of plants Excellent - heavy foliage.	Lycium abundant
Area 4 Marathon - Sanderson (Terrell, Pecos, & Brewster Counties)	March 20, 1958	75 Samples	15,090	201	75% of plants Good - woody but good foliage. 25% of plants Fair - just leafing	
Area 5 El Paso (El Paso and Hudspeth County)	March 21 & 22, 1958	90 Samples	560	6	56% of plants Excellent 44% of plants Fair.	

1959 POTATO PSYLLID SURVEY

Area	Date Surveyed	No. ten sweep samples taken	Total No. Psyllids (based on 100 sweep samples)	Psyllids per 100 sweeps	Condition of Host Plants	Remarks
Area 1 Big Spring (Howard County)	March 10, 1959	60 Samples	1,440	24	97% of plants Dormant and Woody. 3% of plants just leafing out.	Small numbers of eggs found on leafing plants. Dormancy due to late cold and weather (only ½ inch of rain since Jan. 1). Area invaded by tall weeds and grasses; Psyllid breeding conditions poor.
Area 2 San Angelo (Tom Green County)	March 19 & 23, 1959	75 Samples	2,200	29	65% of plants Dormant and Woody. 25% of plants Good-leafed out but woody 10% of plants Fair - just started leafing.	Eggs found in small numbers on leafing plants. Dormancy due to cold and dry weather.
Area 3 Del Rio (Val Verde County)	March 4, 1959	2 * 73 75 * Samples taken from bush known to be a member of Composite family.	2,500 3,980 6,480	86	61% of plants Excellent - heavy foliage. 36% of plants Good - foliage not yet mature. 3% of plants member of the Composite family in the dormant stage.	Heavy growths of dry weeds and tall grasses makes Lycium hard to locate.

1959 POTATO PSYLLID SURVEY (Cont'd)

Area	Date Surveyed	No. ten sweep samples taken	Total No. Psyllids (based on 100 sweep samples)	Psyllids per 100 sweeps	Condition of Host Plants	Remarks
Area 4 Marathon - Sanderson (Terrell, Pecos, & Brewster Counties)	March 5, 1959	14 * 61 75 Samples * Samples taken on Blackbrush or Tarbush (Florensia) member of Composite family.	6,500 3,280 9,780	130	13% of plants Excellent - heavy foliage. 16% of plants Good - just leafing - tends to be woody. 45% of plants Fair - light foliage - woody. 8% of plants poor - light foliage very woody. 18% of plants Blackbrush or Tarbush (Florensia) in dormant stage.	Very small numbers of eggs observed; plants range from full foliage to near dormancy.
Area 5 El Paso (El Paso & Hudspeth Counties)	March 13, 1959	90 Samples	3,780	42	74% of plants Dormant. 10% of plants Excellent. - Heavy foliage. 3% of plants Very Good - Light foliage. 11% of plants Good - just leafing. 2% of plants Fair - leafing just visible.	Majority of dormant plants were in the upper El Paso Valley. Possibly due to irrigation plants are more viney with more abundant foliage in this area.

RHODODENDRON RUST

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PROGRAM ANNUAL REPORT
1959 FISCAL YEAR

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UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
WESTERN REGION

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
WESTERN REGION

ANNUAL PROGRAM REPORT

RHODODENDRON RUST

July 1, 1958 - June 30, 1959

In cooperation with
County, State, Federal, and Local Agencies

December 1, 1959

Oakland, California

Jim R. Dutton

Regional Supervisor

TABLE OF CONTENTS

HIGHLIGHTS OF YEAR'S PROGRAM ACTIVITY

Accomplishment for the Fiscal Year

Following the start of the eradication program for European rhododendron rust in February 1958, intensive control efforts were carried on at the Cranguyma Farms Nursery and the J. Harold Clarke Nursery at Long Beach, Washington, through August 1958. The activities during this period emphasized the three procedures initiated during early 1958; namely, (1) dusting with a ferbam-sulphur-talc mixture, (2) spraying with an aqueous solution of Actispray, one of the Acti-dione derivatives, and (3) systematic inspection of nursery plants for removal of rust-infected leaves to reduce the distribution of inoculum. During spare time from these activities, the two extra men hired in July 1958 and the one full-time employee conducted a foot-scouting survey for rust on rhododendrons at private properties on the Long Beach peninsula. At the end of August 1958, the full-time employee resigned to resume schooling, and one of the extra employees was released, leaving one employee to handle the work on a part-time basis. His assignment was to make occasional general observations and to report on rust incidence during succeeding months.

The change from an intensive eradication-type program to one mainly restricted to observation was indicated as advisable by several factors, principally (1) the probability that Actispray applications might be largely ineffective for control during the high precipitation seasons - fall, winter, and spring; (2) the very low late-summer incidence of the disease resulting from the control attained by the use of Actispray; and (3) the desirability of making an appraisal of progress to guide the future planning of the program. In addition, new factors were introduced by the finding of the rust at three private properties on the Long Beach peninsula, on postentry plants at two Seattle properties, and at several nurseries at widely scattered points in Oregon. During the spring and summer of 1959, 12 additional infected properties were discovered in Oregon by State Department of Agriculture employees, and a survey by the California Department of Agriculture showed the presence of the disease at five nurseries in four different counties. A general survey for the disease is being conducted in other parts of the United States, with negative findings to date. At the two Long Beach, Washington nurseries, observations through June 1959 showed a continued very light, hard-to-find rust infection.

Program plans and policy matters relating to the rhododendron rust problem were the subject of several meetings and discussions during the year between Federal and State officials and other interested cooperators. Also, the program was discussed at the National Plant Board meeting in Portland, Oregon in September 1958, and the Western Plant Board meeting at Phoenix, Arizona in June 1959. After due consideration of all aspects of the problem, the Federal Government terminated active participation in the eradication program as of June 30, 1959, but maintained a cooperative interest with the states with respect to future activities which may be undertaken.

Major Deviation from Work Plan

The introduction of Actispray as an apparently successful control for the rust was a major addition to the original program plan. Following August 1958, the decision to reduce the work to occasional observations at the two Long Beach nurseries was a major revision in program activity.

Status of Program at Close of Year

Since Federal participation in the program was terminated as of June 30, 1959, no further control or eradication activities are planned. Plant Pest Control, however, will maintain interest in State activities and will be prepared to render technical assistance and general cooperation.

PROGRAM ACTIVITY DURING FISCAL YEAR

Planning and Direction

How planned and directed

With advisory assistance of the ARS Plant Quarantine Division and the Washington, Oregon, and California State Departments of Agriculture, the Plant Pest Control Division handled all of the actual field work and over-all planning and coordinating of activities.

Technical Assistance

Technical assistance provided to others by program personnel

All control and eradication work done at the two privately-owned nursery premises at Long Beach,

Washington was accomplished by Plant Pest Control program personnel. Incidental to accomplishment, technical advice was given to nursery owners concerning steps to be taken to aid the program.

Technical assistance provided to program by cooperating agencies

The Plant Quarantine Division, ARS, furnished the principal technical advice relative to program operations, but was assisted by Plant Pest Control and Washington State Department of Agriculture personnel. The Washington State University Experiment Station is continuing to conduct experimental work at the Puyallup station using a related rust of rhododendrons. The results of this research should be valuable to future program or individual control endeavors. In addition to work with the pathological problems, the Puyallup station in January 1959 initiated a comprehensive series of experiments to determine safe dosages of Actispray to avoid both foliage and blossom damage to rhododendrons. Also, program personnel have been in frequent consultation with Experiment Station staff members relative to identification, pathological problems, and related matters.

Survey

Procedures or techniques used

Field

The house-to-house foot-scouting survey of rhododendron plantings at private properties on the Long Beach peninsula was continued through August 1958, at which time it was terminated. The area covered during the survey extended from the Columbia River at Megler to an east-west line of Highway 101 at Seaview. Three properties having rhododendron rust-infected bushes were located.

Laboratory

Laboratory work was handled by the technical advisor employed by the ARS Plant Quarantine Division, Seattle, Washington. The work

principally consisted of microscopic identification of rusted leaf specimens found in the course of the survey on the peninsula and of those collected during the defoliation program at the two nurseries. Also, some additional greenhouse experiments were conducted with Actispray to determine control results and dosages required.

Accomplishments

This discussion is covered under item titled "Procedures or techniques used."

Statement of losses

Due to the control attained by the application of Actispray, rhododendron rust was present in only minor and hard-to-find quantity dating from the suspension of the eradication activities in late August 1958 until termination of the program, as of June 30, 1959. Some "spot" spraying was done by the nurseries in 1959, but no general or systematic program was undertaken. The two nursery owners stated that some foliage "burn" occurred from the dusting operation during the late summer of 1958 and that an apparently poor bud-set may have resulted from effects of the Actispray. However, while the nurseries have continued to destroy occasional rusted plants of the more susceptible varieties, the over-all loss has been negligible during the year. The losses from reduction in sales to individuals and dealers as a result of the State hold-order on shipments from the Long Beach nurseries, as well as the unfavorable publicity, may affect nursery sales to a degree for some years, but are not directly measureable.

Eradication or Control

Procedures or techniques used

The fungicide dust, initially applied with a small back-pack power duster, was more effectively applied later by a dusting attachment on a Buffalo

turbine mounted on a universal jeep. The same unit with a sprayer attachment was used for the Actispray applications. The dusting was done at 7 to 10-day intervals and spraying at 2-week intervals. Also, removal of diseased leaves was continued when time was available from the dusting and spraying work and the peninsula foot-scouting survey. After August 1958, the only program activity was that of the one part-time employee who made observations to detect rust. When diseased leaves were found they were removed. Wherever infected rhododendron plants were found during the course of inspection in both California and Oregon, they were destroyed immediately, sprayed with Actispray, or sprayed and then destroyed.

Accomplishments

By the time control applications were suspended in August 1958, some of the tentative conclusions advanced during the first several months of the work were more definitely confirmed; namely, (1) under the conditions of heavy infection, the mass removal of diseased leaves did not affect control commensurate with the effort or cost, (2) the ferbam-sulphur-talc appeared not to be effective in preventing infection on new growth or in killing active sori, and (3) the applications of Actispray were effective in controlling the disease from an economic and aesthetic standpoint, but eradication was not attained. This incomplete eradication may have been due largely to imperfect coverage, but other unknown factors may have contributed to the situation. Occasional light foliage and blossom damage occurred as a result of the Actispray applications, and the nursery owners stated that bud-set seemed to be less than normal. Some of these points will be further clarified by data developed from experiments being conducted at the Puyallup Experiment Station. It is believed that, while Actispray may not be the final answer to the rhododendron rust problem, the control afforded by its use appears to approach the near elimination of minor infections and to suppress major outbreaks.

Regulatory

Procedures or techniques used

There are no formal inter- or intrastate regulations restricting the shipment of rhododendrons or azaleas on account of rhododendron rust. The restriction usually applicable in all states against shipping diseased or infested plants serves as a general regulation. The postentry inspection requirements of Federal Quarantine No. 37 give fairly good, but not complete, protection from new introduction of the disease from foreign sources.

Accomplishments

None

Methods Improvement

Work performed

None

Accomplishments

There were no improvements in methods other than adaptations in procedure resulting from experience.

Other

Cooperation received during fiscal year

Major contributions received

There was continued good cooperation from the Washington, Oregon, and California State Departments of Agriculture, the Washington State University, and the Experiment Station. Especially valuable experimental work was performed at the Puyallup Station.

Cooperative work needing strengthening another year

None

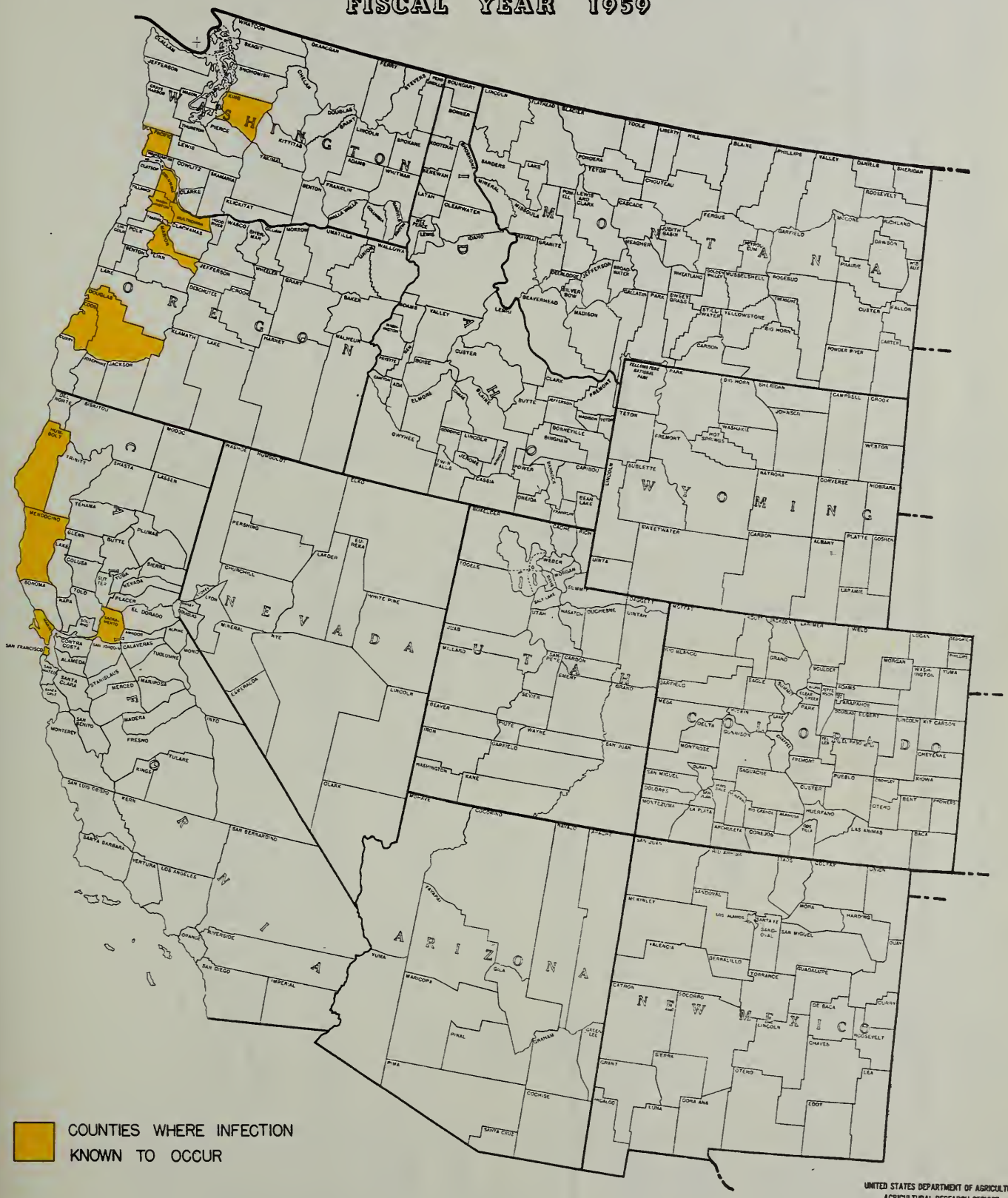
Associated activities and services

Program servicing

None

RHODODENDRON RUST PROGRAM

FISCAL YEAR 1959



UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
WESTERN REGION
OCTOBER 1959

GPO 979103

EXPENDITURES BY SOURCE AND ACTIVITY

Rhododendron Rust

Fiscal Year 1959

	1	2	3	4	5	6	7	8
Source of Cash & Equivalent*	Planning & Direction	Technical Assistance	Survey	Control	Regulatory	Methods Improvement	Other	Total
Plant Pest Control Division	$500	$300	$150	$3,956		$150		$5,056
Other Organizations (Name)								
Washington State Dept. Agric.	100	500						600
Subtotal - Other Organizations	100	500						600
Total (of PPC & Other)	600	800	150	3,956		150		5,656
Contributed Services**								
Washington State Dept. Agric.	250							250
Washington State University	250	250				250		750
Oregon State Dept. Agric.			500					500
California State Dept. Agric.			1,000					1,000
Total	500	250	1,500			250		2,500
Grand Total	$1,100	$1,050	$1,650	$3,956		$400		$8,156

* Limited to direct appropriation, allotments from other sources, services and supplies for which there is an actual cash expenditure.

** Limited to services incidental to other activities for which only an estimated value is available.

COOPERATIVE AID RECEIVED

Rhododendron Rust

Fiscal Year 1959

State and Source of Aid	1	2	3	4	5	6	7	8
	Cash and Equivalent Aid*				Total of Cash & Equivalent	Intangible Service Estimate**	Source Grand Total	Remarks
	Cash	Personal Services	Equipment & Supplies	Space				
Washington State Dept. of Agric.		$600			$600	$250	$ 850	
Washington State University						750	750	
Oregon State Dept. of Agric.						500	500	
California						1,000	1,000	
Total This Period		$600			$600	$2,500	$3,100	

* Limited to direct appropriation, allotments from other sources, services and supplies for which there is an actual cash expenditure.

**Limited to services incidental to other activities for which only an estimated value is available.

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
CENTRAL REGION

ANNUAL PROGRAM REPORT

SOYBEAN CYST NEMATODE

July 1, 1958 - June 30, 1959

In Cooperation with Other
Federal, State, County, and Local Agencies

November 13, 1959
Minneapolis, Minn.

R. O. Bulger
Regional Supervisor

TABLE OF CONTENTS

I. HIGHLIGHTS OF YEAR'S PROGRAM ACTIVITY

A. Accomplishment for the fiscal year

During the year, State and Plant Pest Control personnel surveyed 163,016 acres by soil sampling. An additional 47,929 acres were surveyed by symptom observation and root examination. As a result of the surveys, 4 new infestations were found in Kentucky and 64 in Missouri, involving 2,252 acres. No infested areas were found in the other States of the Central Region.

In previous years it was necessary to rely on soil sampling almost exclusively to locate infested fields. This year, however, symptom surveys in Missouri resulted in locating many confirmed new infestations. Likewise, several new locations in Kentucky were discovered through the symptom survey procedure.

It is estimated that 2,500 acres of soybeans showed evidence of soybean-cyst-nematode damage. At least six fields were damaged to the extent that they were plowed up and replanted. While it is difficult to estimate losses, there is little doubt that this pest was responsible for the loss of more than 10,000 bushels of soybeans in the bootheel counties of Missouri this year. A lesser amount of damage was estimated for Fulton County, Kentucky.

B. Major deviations from work plan.

The latter part of May, when damage was first observed, symptom surveys were considerably extended, particularly in Kentucky and Missouri. Operations in the other States where soybeans constitute a major crop were conducted according to previous plans.

C. Status of program at close of year

At the close of the year, soybean-cyst-nematode infestations had been found in Fulton County, Kentucky, and Dunklin, New Madrid, Pemiscot, and Stoddard Counties in Missouri. Cumulative totals list nine properties infested in Kentucky, consisting of 968 acres; and in Missouri a total of 164 properties and 5,662 infested acres.

Since the beginning of the program, soil surveys were made of 410,834 acres and plant inspections covered 157,563 acres.

II. PROGRAM ACTIVITIES DURING FISCAL YEAR

A. Planning and direction

Field activities were conducted in accordance with plans previously agreed upon by Division personnel and appropriate State officials. The supervisor in charge directed the over-all phases of the program after frequent consultations with cooperating officials.

B. Technical assistance

Technical assistance was provided by Plant Pest Control personnel to property owners, county agents, soybean-processing plants, and others by supplying informational materials and advice concerning the pest and practices that can be followed to reduce populations and the hazard of spread.

Specialists from the Extension Service and Experiment Stations provided technical assistance by conducting agricultural group meetings and informing the general public of the program activities. Laboratory space and personnel were provided by several State Departments of Agriculture and Colleges of Agriculture. Specialists at these institutions were available for consultation concerning the program operations.

C. Survey

Three types of survey--soil sampling, root examination, and symptom--were all employed during the year.

Soil sampling was extensively used and consisted of taking soil samples from fields that had a history of continuous soybean planting for several years. Samples were taken to a central point, where the soil was washed and the cysts removed for further examination.

Root examination was done by lifting the plants from the soil and examining the roots for the presence of cysts. This procedure was employed in conjunction with symptom surveys when plants showed abnormal growth.

The symptom surveys this year were particularly important because the procedure allows for rapid observations of extensive areas. Most of this survey was done by driving roadsides. When stunted or unusual conditions were observed in suspected fields, further examination was made of roots and soil samples were collected for processing.

Field laboratories were in operation at ten locations, where soil collections were washed for the purpose of screening all cysts. These were examined microscopically and suspected cyst nematodes were sent to the Memphis Laboratory for further examination.

D. Eradication or control

No control or eradication was accomplished during the year due to lack of practical control measures. Emphasis, however, was placed on encouraging growers in crop rotation or the taking of infested fields out of host crop planting.

E. Regulatory

Federal and State quarantines were in effect in Kentucky and Missouri. Regulatory measures were enforced in all infested areas. Inspectors continually alerted growers concerning the requirements for movement of commodities and equipment. During the year, 70 cotton ginners and soybean processors conformed with the regulations under dealer-carrier agreements. More than 100 pieces of heavy equipment, farm machinery, cotton pickers, etc., were cleaned in the two infested States.

F. Methods improvement

Three water-pressure cleaners and one air-compressor unit were used to clean equipment in compliance with the provisions of the quarantine. These units were stationed at central points, readily available for immediate use when required. To improve the procedure of cleaning equipment used in infested fields, an air compressor was purchased and mounted on a $1\frac{1}{2}$-ton platform truck together with a high-pressure water cleaner. Air or water was used separately for cleaning purposes. Air is used primarily for cleaning combines. Soil-washing equipment was used in 10 different locations throughout the Region.

In addition to providing laboratory facilities for washing soil, and space for cyst examination, some States also furnished microscopes and other associated equipment. This type of cooperation added a great deal to the successful operation of this phase of the soybean program.

G. Other

Informational activities were greatly accelerated in the areas of the heaviest infestation, and where growers suffered losses. County agents in these counties held numerous meetings to discuss the problem. Many news stories prompted by county agents appeared in southeastern Missouri.

Plant Pest Control personnel appeared on programs at meetings to discuss the soybean-cyst-nematode program. Circulars and bulletins were distributed and a great deal of emphasis was placed on keeping the public informed of the program. Material for newspaper stories was provided county agents and appearances on radio programs helped to keep agricultural interests informed.

III. RECOMMENDATIONS FOR COMING YEAR

A. Survey

Soil sampling surveys should be extended to more adequately cover fields planted to beans along the Mississippi River and its

tributaries. More intensive surveys are recommended adjacent to infested areas when delimiting the known infestations is the purpose. Sufficient resources should be made available in order that delimiting surveys can be accomplished by employing the 8 x 8 or 16 x 16 grid coverage. More emphasis should be placed on symptom survey when weather conditions favor the development of symptoms.

B. Eradication or control

More emphasis should be placed on urging growers with infested fields to practice crop rotation or eliminate host crop planting.

C. Regulatory

Continued emphasis should be placed on sanitation procedures, particularly with reference to cleaning equipment moving from infested locations to non-regulated areas. Periodic checks should be made to insure strict adherence to dealer-carrier agreements. Field personnel should be reminded of their responsibilities concerning the cleaning of footgear and clothing when leaving fields after sampling.

D. Methods improvement

Tests of equipment and chemicals should be continued in an effort to devise a practical and less expensive method of eradication. It is recommended that survey procedures be carefully studied with a view toward developing more uniform and complete coverage. In areas where conditions are favorable, planes should be used to make symptom surveys. Consideration should also be given to improving sanitation equipment and procedures.

E. Associated activities

Informational activities should be continued and expanded to keep the public informed of the pest, particularly in new areas of infestation.

Soybean Cyst Nematode - Accomplishments, Fiscal Year 1959

State	Soil Survey		Plant Inspection		Infestations Confirmed	
	Properties	Acres	Properties	Acres	Properties	Acres
Illinois	989	50,899	1	20	0	0
Indiana	99	4,634	57	2,667	0	0
Kansas	65	1,577	0	0	0	0
Kentucky	1,345	31,406	186	11,815	4	158
Minnesota	249	6,655	0	0	0	0
Missouri	2,681	61,142	436	12,522	64	2,094
North Dakota	32	1,232	0	0	0	0
Ohio	76	1,743	994	20,905	0	0
South Dakota	147	3,683	0	0	0	0
Wisconsin	3	45	0	0	0	0
Totals	5,686	163,016	1,674	47,929	68	2,252

Soybean Cyst Nematode - Summary of Associated Activities - Fiscal Year 1959

State	Public Meetings Attended	Presentations: Talks	Presentations: Slides	Presentations: Films	Presentations: Radio	Presentations: TV	Feature & News Stories*	Extent These Aids Were Used**: Exhibits	Extent These Aids Were Used**: Bulletins*	Extent These Aids Were Used**: Circulars*	Extent These Aids Were Used**: Infest. Maps & Posters	Other
FEDERAL												
Illinois	1	1	1	0	0	0	0	0	356	0	0	0
Indiana	0	0	0	0	0	0	0	0	4	0	0	0
Kentucky	5	3	4	0	0	0	0	0	375	0	0	2
Michigan	0	0	0	0	0	0	1	0	0	0	0	0
Minnesota	0	0	10	0	0	0	0	0	10	5	2	0
Missouri	3	3	3	0	2	0	4	0	500	0	0	0
North Dakota	1	0	0	0	0	0	0	0	50	0	0	0
Ohio	0	1	1	0	0	0	0	0	100	100	0	1
South Dakota	1	0	0	0	0	0	0	0	0	0	0	0
Wisconsin	0	0	0	0	0	0	0	0	0	15	0	0
Subtotals	11	8	19	0	2	0	5	0	1,395	120	2	3
COOPERATORS												
Illinois	0	0	0	0	0	0	0	0	991	0	0	0
Kentucky	5	3	4	0	0	0	0	0	375	0	0	1
Missouri	5	2	0	0	2	0	12	0	0	0	0	0
North Dakota	1	1	1	0	0	0	0	0	0	0	0	0
Ohio	0	0	0	0	0	0	0	0	100	100	0	1
South Dakota	1	1	1	0	0	0	0	0	0	0	0	0
Subtotals	12	7	6	0	2	0	12	0	1,466	100	0	2
Grand Totals	23	15	25	0	4	0	17	0	2,861	220	2	5

*Written by Federal personnel for release direct or through cooperators.
**This is a conservative estimate.

Soybean Cyst Nematode - Expenditure by Source and by Activity - Fiscal Year 1959

State	Planning & Direction	Technical Assistance	Survey	Control	Regulatory	Methods Improvement	Other	Total
CASH & EQUIVALENT*								
PPC Division	$7,100	$12,600	$83,900	0	$15,700	$1,900	$1,400	$122,600
Other Organizations:								
Illinois	0	0	25,600	0	0	0	0	25,600
Indiana	0	0	3,200	0	0	0	0	3,200
Kansas	0	0	0	0	0	0	100	100
Kentucky	0	0	0	0	0	0	1,400	1,400
Missouri	0	0	7,100	0	0	0	1,900	9,000
North Dakota	0	0	0	0	0	0	200	200
Ohio	0	0	0	0	0	0	300	300
South Dakota	0	0	0	0	0	0	200	200
Subtotals	0	0	$35,900	0	0	0	$4,100	$40,000
CONTRIBUTED SERVICES**								
Illinois	2,000	500	0	0	0	0	0	2,500
Indiana	500	1,000	0	0	0	0	0	1,500
Kansas	0	100	500	0	0	0	0	600
Kentucky	0	2,100	1,000	0	500	0	1,200	4,800
Michigan	0	0	1,000	0	0	0	0	1,000
Minnesota	0	1,500	2,000	0	0	0	0	3,500
Missouri	1,000	6,300	2,200	500	3,000	0	0	13,000
Nebraska	0	200	200	0	0	0	0	400
North Dakota	100	200	300	0	0	0	0	600
Ohio	200	700	0	0	0	0	300	1,200
South Dakota	100	400	200	0	0	0	0	700
Wisconsin	200	400	600	0	0	0	0	1,200
Subtotals	$ 4,100	$13,400	$ 8,000	$500	$3,500	0	$1,500	$31,000
GRAND TOTALS	$11,200	$26,000	$127,800	$500	$19,200	$1,900	$7,000	$193,600

*Limited to direct approp., allotments other sources, services & supplies with definite replacement value.
**Limited to services incidental to other activities, for which only an estimated value is available.

Soybean Cyst Nematode - Cooperative Aid Received - Fiscal Year 1959

State	Cash and Equivalent Aid*				Total of Cash & Equiv.*	Intangible Service Estimate**	Source Grand Total
	Cash	Personal Service	Equipment & Supplies	Space			
Illinois	$24,300	$ 0	$ 300	$1,000	$25,600	$ 2,500	$28,100
Indiana	2,600	0	400	200	3,200	1,500	4,700
Kansas	0	0	0	100	100	600	700
Kentucky	0	0	0	1,400	1,400	4,800	6,200
Michigan	0	0	0	0	0	1,000	1,000
Minnesota	0	0	0	0	0	3,500	3,500
Missouri	0	7,000	500	1,500	9,000	13,000	22,000
Nebraska	0	0	0	0	0	400	400
North Dakota	0	0	100	100	200	600	800
Ohio	0	0	0	300	300	1,200	1,500
South Dakota	0	0	0	200	200	700	900
Wisconsin	0	0	0	0	0	1,200	1,200
Totals	$26,900	$7,000	$1,300	$4,800	$40,000	$31,000	$71,000

*Limited to direct appropriation, allotments from other sources, services, and supplies for which there is a definite replacement value.

**Limited to services incidental to other activities, for which only an estimated value is available.

(*-..*)

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
EASTERN REGION

ANNUAL PROGRAM REPORT

SOYBEAN CYST NEMATODE

July 1, 1958 - June 30, 1959

COOPERATING AGENCIES:

State Plant Pest Control Agencies
Extension Service
and
PLANT PEST CONTROL DIVISION, CROPS RESEARCH DIVISION
of the
Agricultural Research Service
U. S. Department of Agriculture

November 1959
Moorestown, New Jersey

H. L. Smith
Regional Supervisor

I. Highlights of Year's Program Activities

A. Accomplishment for the fiscal year

Surveys for this nematode were continued during the fiscal year. Division and cooperating personnel in the soybean growing areas of Virginia, Maryland, Delaware, New Jersey and Pennsylvania were alert for soybean cyst nematode symptoms during late summer and fall months. Samples were collected in Virginia, Maryland, Delaware and New Jersey. The samples were processed in September and October 1958, and soybean cysts were found and confirmed for the first time in the Eastern Region with the finding of infestation on two properties in Nansemond County, Virginia. The Virginia Department of Agriculture and Immigration publicly announced these finds in October and steps were taken to delimit the infested area. This delimiting survey was commenced on November 18 and continued through mid-June 1959. During this period, soybean cyst nematodes were found and confirmed on 52 farms, totalling 3,099 acres.

B. Major deviation from work plan

There was no deviation from work plan.

C. Status of program at close of year

At the close of the fiscal year, infestation had been found and confirmed on 52 properties in two separated sections of Nansemond County, Virginia. Early in June announcement was made of a public hearing to be held on July 8, 1959, at Richmond, Virginia to consider extension of the Federal Soybean Cyst Nematode Quarantine (#79) to include the State of Virginia. No evidence of infestation was found in Maryland, Delaware, New Jersey, or Pennsylvania.

II. Program activity during fiscal year

A. Planning and direction

1. How planned and directed

The work was planned and directed jointly by State plant pest control officials and Division personnel

B. Technical assistance

1. Technical assistance provided to farmers and others by program personnel.

   Division personnel provided descriptive literature, program slides, and technical assistance to farmers, agricultural workers and others interested in the problem. Soybean growers, county agents, and others were informed as to the nature and significance of this pest.

2. Technical assistance provided to program by cooperating agencies

Cooperating State agencies, plant pathologists, entomologists, extension and research workers assisted in various phases of the program. Division employees of the Golden Nematode Laboratory provided valuable assistance in connection with cyst identification and soil sample processing techniques.

C. Survey

1. Procedures or techniques used

a. Field

Observations for soybean plant injury symptoms and soil sampling surveys were utilized. In the intensive delimiting survey program in Virginia, conducted following finding of infestation, soil samples were collected from cultivated fields located in close proximity to the infested properties on an 8'x8' pattern. Confirmatory sampling at positive sites was on the same basis and in some cases a 4'x4' or 2'x2' sampling pattern was employed.

b. Laboratory

The standard laboratory procedures for processing soil samples was followed. Suspicious cysts were processed at the Hicksville Laboratory and at the Franklin, Virginia Storehouse. Positive specimens were forwarded to the Beltsville Nematology Laboratory for confirmation.

2. Accomplishments

During the year, 24,114 soil samples were collected from 3,592 properties representing 164,295 acres. Infestation was confirmed on 52 Virginia properties involving 3,099 acres. Survey results were negative in Maryland, Delaware, New Jersey, and Pennsylvania.

3. Statement or table of pest damage

Not applicable

D. Eradication or Control

Not applicable

[illegible]

[illegible]

[illegible]

E. Regulatory

1. Procedures or techniques used

Regulatory action was taken by the Virginia Department of Agriculture and Immigration to control the movement of farm machinery, equipment, etc., from infested properties following confirmation of the presence of the infestation. (The Federal Quarantine regulations became effective in Virginia on August 21, 1959.)

2. Accomplishments

Virginia regulatory officials arranged for the loan of cleaning equipment from North Carolina and started the cleaning of farm machinery on November 24, 1958.

Early in March, 1959, Division personnel met with Virginia officials to discuss necessary regulatory procedures.

F. Methods Improvement

Not applicable

G. Other

1. Cooperation received during fiscal year

Cooperating State agencies were active in over-all planning and provided workers and laboratory facilities. They also arranged for suitable periodic news releases to newspapers and radio stations. The Extension Service distributed bulletins and pamphlets to county agents, farmers and others interested in the program.

2. Associated activities and services

Soybean growers, shippers and processors, county agents, and others were visited by State and Division inspectors to acquaint them with the pest and to enlist their aid in reporting any indication of soybean damage.

III. Recommendations for coming year

A. Survey

Detection surveys should be continued and extended to cover all areas in Virginia and expanded in other states where soybeans are grown.

B. Eradication or Control

Not applicable

C. Regulatory

A thorough study of products originating or produced on infested properties should be made to determine actual hazard of spread. This applies particularly to peanuts which are used extensively in the crop rotation plan in southern sections of Virginia, farm machinery, and field equipment.

D. Methods Improvement

Not applicable

E. Associated Activities

Not applicable

EASTERN REGION

SOYBEAN CYST NEMATODE

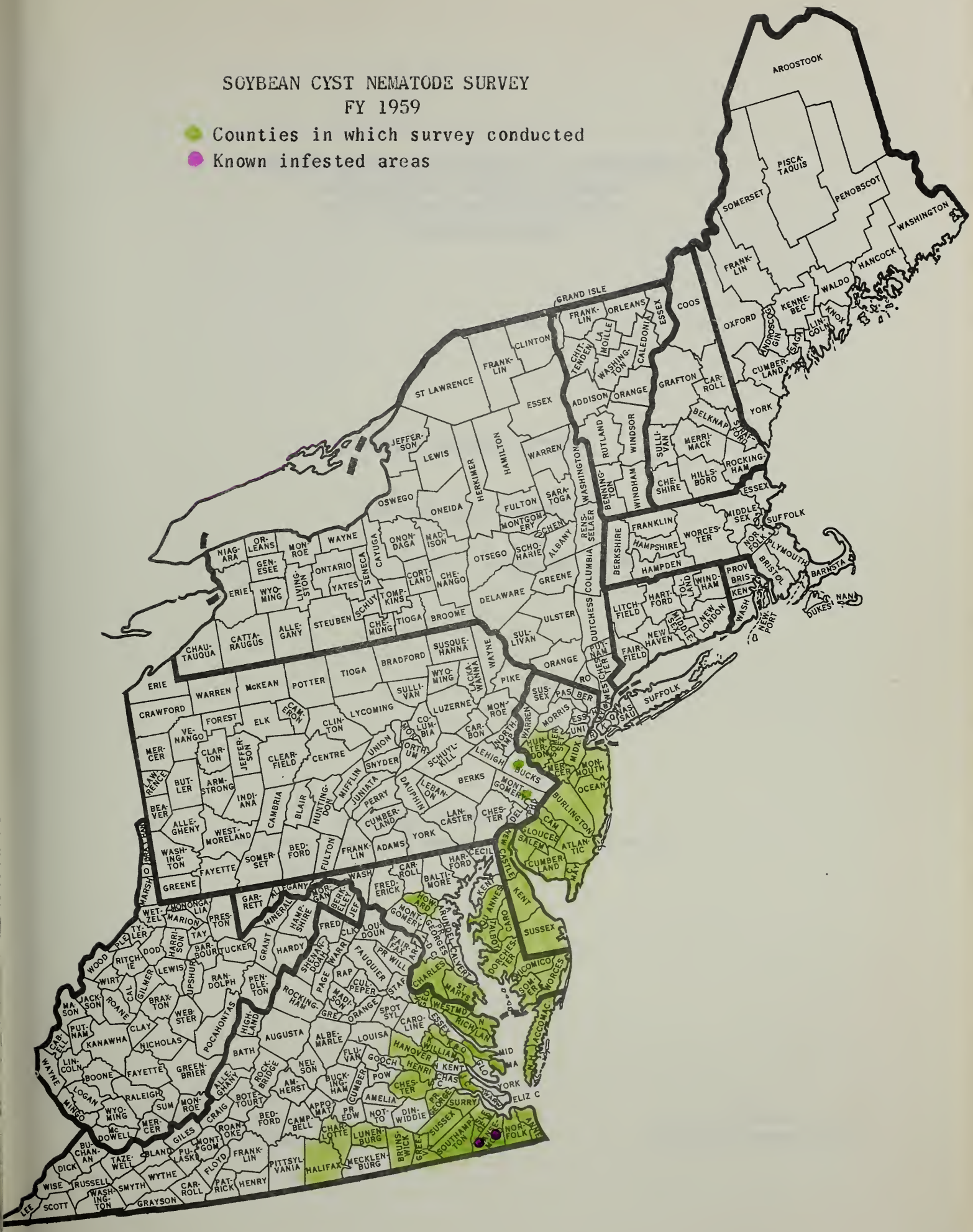
FISCAL YEAR 1959

STATE AND COUNTIES	SOIL SURVEY		PLANT INSPECTION		INFESTATIONS CONFIRMED	
	Properties	Acres	Properties	Acres	Properties	Acres
A	B	C	D	E	F	G
Delaware	26	259	205	5,432	-	-
Maryland	265	1,898	269	773	-	-
New Jersey	113	4,100	1,319	21,391	-	-
Pennsylvania	-	-	2	-	-	-
Virginia	1,034	21,606	359	108,836	52	3,099
Total from July 1	1,438	27,863	2,154	136,432	52	3,099
Total from beginning of program	1,960	37,803	3,723	165,521	52	3,099

SOYBEAN CYST NEMATODE SURVEY
FY 1959

Counties in which survey conducted

Known infested areas



UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
SOUTHERN REGION

ANNUAL PROGRAM REPORT

SOYBEAN CYST NEMATODE

July 1, 1958 - June 30, 1959

In cooperation with other
Federal, State, County and Local Agencies

November 13, 1959
Gulfport, Mississippi

C. C. Fancher
Regional Supervisor

I. Highlights of Year's Program Activity

A. Accomplishments for the fiscal year

During the fiscal year, surveys for soybean cyst nematodes were made in 207 counties in 10 states of the Southern Region. Two types of survey were used - soil samples and visual symptoms. Soil sampling was made of 9,173 properties with 324,444 acres; and 21,015 properties comprising 360,652 acres were visually surveyed. An additional 143 properties consisting of 5,334 acres in 13 counties were found infested, including 4 counties in North Carolina and 3 counties in Tennessee found infested for the first time.

B. Major deviation from work plan

None

C. Status of Program at close of year

The soybean cyst nematode has been found on 491 properties representing 19,293 acres in 17 counties of Arkansas, Mississippi, North Carolina, and Tennessee.

Due to the high cost of fumigation, control measures have consisted of a plan of crop rotation to keep soybeans off infested land for a period of at least three years. Increased damage this year has made the need for control practices clear to the farmers.

II. Program Activity during the fiscal year

A. Planning and Direction

1. How planned and directed

General plans were developed by Division personnel and cooperating state officials covering the type of survey, area to be surveyed, and procedure to be used if and when infestations were found.

B. Technical Assistance

1. Technical assistance provided to farmers and others by program personnel

Assistance was provided to farmers and others interested in soybean production by Division and State inspectors, county agents, and through the distribution of pamphlets and bulletins dealing with the pest and outlining control measures.

The Methods Improvement Section of the Division has been active in conducting fumigation experiments.

2. Technical assistance provided to program by cooperating agencies

Technical assistance was provided the farmers by program personnel, county agents, and by distribution of pamphlets and bulletins. Technical assistance to the program was provided by the Methods Improvement Section of the Division and Region and by the Nematology Section of Horticultural Crops Research Division.

C. Survey

1. Procedures or techniques used

Detection surveys are made in all areas of the Southern Region where soybeans are grown, but more intensively in the major soybean production areas in Arkansas, Louisiana, Mississippi and Tennessee. Soil samples are taken throughout the year from fields where soybeans have been grown for three or more years. Samples are processed at washing stations set up at strategic points in the area.

During the growing season, observations are made for stunted or yellowed plants which are pulled and the roots examined for cysts or signs of injury. Roots and/or cysts are placed in vials of preservative and sent to the laboratory at Memphis for determination.

2. Accomplishments

Soil surveys were made on 9,173 properties representing 324,444 acres in 10 states and plant inspection on 21,015 properties representing 360,652 acres was also made. New infestations were confirmed on 143 properties comprising 5,334 acres in 3 states.

3. Statement or table of pest damage

The soybean cyst nematode causes stunting and yellowing of the plant and a reduction of yield. A severe infestation can result in major crop losses. Experience seems to indicate that damage is greater during times of low rainfall.

D. Eradication or Control

1. Procedures or techniques used.

Control of nematodes may be accomplished by the application of standard nematocides each year, but such practices are too expensive to be used as eradication measures on large acreages.

The present plan is to encourage the growing of non-susceptible crops on infested land, the enforcing of the quarantine provisions to prevent spread from known infested properties, and continued delimiting surveys to find any other infestations that may be present.

2. Accomplishments

Where infestations were found, growers were urged to follow crop rotation and other plans recommended.

E. Regulatory

1. Procedures or techniques used

Dealer-carrier agreements were signed by individuals or concerns handling affected products originating in the regulated area. Certificates were issued for the movement of regulated material when the proper requirements were met. All regulatory activities were carried out as prescribed by Federal Quarantine No. 79.

F. Methods Improvement

1. Work performed

The Methods Improvement Section is still engaged in studies of soil fumigation and treatment of commodities and equipment, and devising ways to increase survey efficiency.

2. Accomplishments

Airplanes were used in surveys and it was found that it was possible to make symptom surveys by this method.

G. Other

1. Cooperation received during the fiscal year

State agencies cooperated by assisting in the planning of surveys, and also by furnishing inspectors where necessary.

III. Recommendations for coming year

A. Survey

It is recommended that surveys be conducted as in the past in all soybean growing areas to delimit known areas and find new infestations.

B. Eradication or control

It is recommended that crop rotation or removal of soybeans from infested properties be practiced and that soil fumigation applications be made wherever deemed practical for eradication.

C. Regulatory

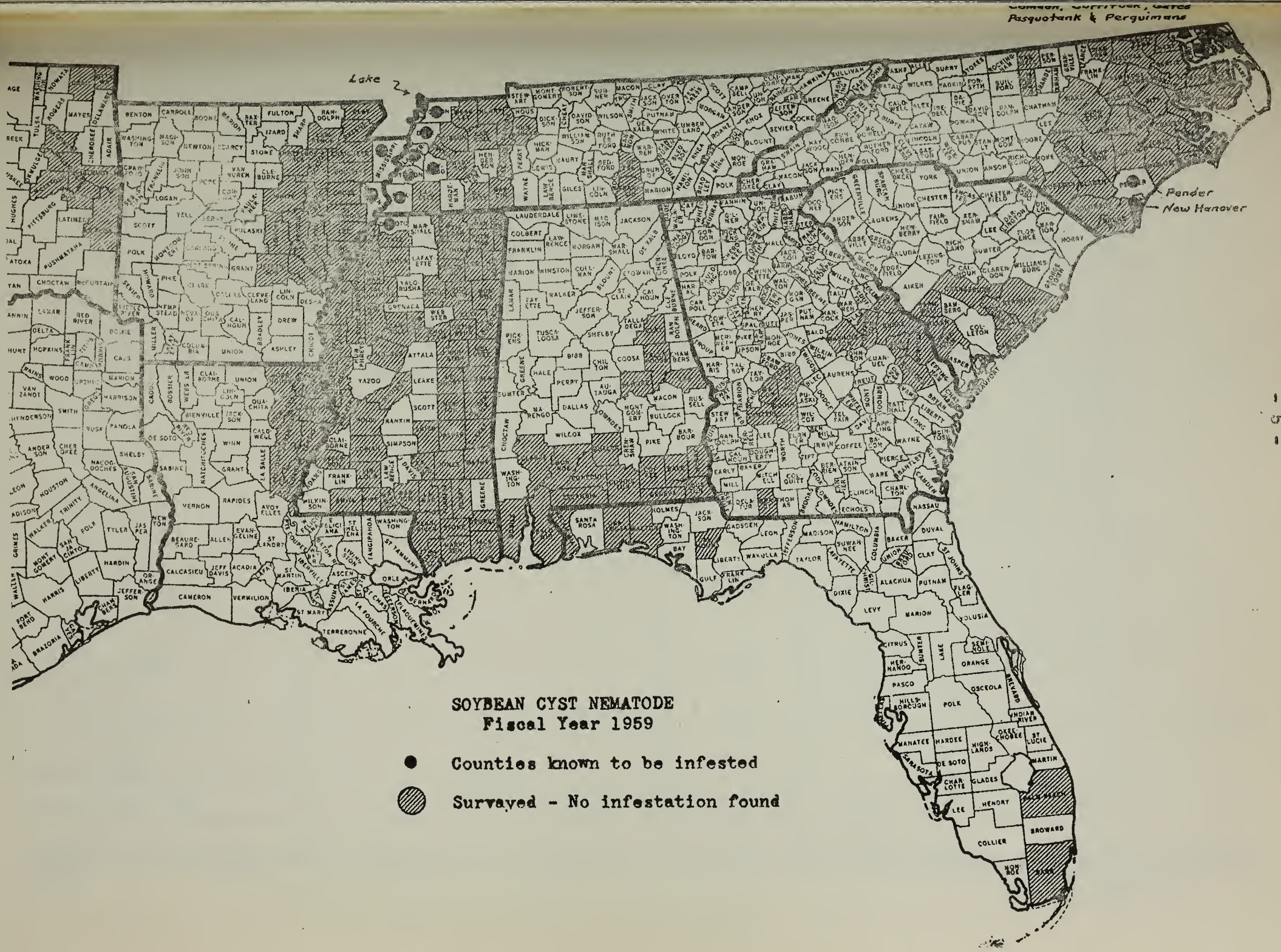
Quarantines should be extended to cover any new infestations discovered.

D. Methods Improvement

Work should be continued by the Methods Improvement Section on soil treatments and better methods of survey.

E. Associated Activities

It is recommended that every effort be made to bring the problem to the attention of farmers, growers, and others in the areas where soybeans are grown.


Pasquotank & Perquimans
Lake
Pender
New Hanover
SOYBEAN CYST NEMATODE
Fiscal Year 1959
Counties known to be infested
Survayed - No infestation found

SOYBEAN CYST NEMATODE

Region	Prepared by
Southern	
Period (Designate; Month, 1-15, 16-31, or 1-31)	Date prepared
Fiscal Year 1959	

STATE AND COUNTIES A	SOIL SURVEY		PLANT INSPECTION		INFESTATIONS CONFIRMED	
	Properties B	Acres C	Properties D	Acres E	Properties F	Acres G
Alabama	264	9,534	707	24,098	0	0
Arkansas	5,624	209,341	0	0	74	3,166
Florida	60	3,302	6	205	0	0
Georgia	194	5,102	215	5,600	0	0
Louisiana	88	11,732	566	39,077	0	0
Mississippi	1,132	42,798	0	46,404	0	0
N. Carolina	1,076	17,711	18,666	209,108	48	1,112
Oklahoma	4	104	31	982	0	0
S. Carolina	18	1,700	756	33,300	0	0
Tennessee	713	23,120	68	1,878	21	1,056
Total This Period						
Total From July 1, 1958	9,173	324,444	21,015	360,652	143	5,334
Total From Beginning of Program	20,098	699,100	38,868	734,427	491	19,293

PPC 7-12
(Feb.-58)

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Service
Plant Pest Control Division

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Service
Plant Pest Control Division

Program Soybean Cyst Nematode

SUMMARY OF ASSOCIATED ACTIVITIES

Prepared by: _____

Region Southern

Fiscal year 1959

Area	Public Meetings Attended	Presentations					Feature & News Stories*	Extent These Aids Were Used				Special Reports
		Talks	Slides	Films	Radio	TV		Exhibits	Bul.	Cir.	Infest. Maps & Posters	
Arkansas	21	18	2	-	-	-	2	-	-	750	2	-
Florida	-	-	1	-	-	-	-	-	-	-	-	-
Georgia	-	-	10	-	-	-	-	1	3	-	-	-
Tennessee	5	2	4	-	1	-	-	-	-	250	50	3
Total	26	20	17	-	1	-	2	1	3	1000	52	3

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
SOUTHERN REGION

ANNUAL PROGRAM REPORT

SWEETPOTATO MOSAIC

July 1, 1958 - June 30, 1959

In cooperation with other
Federal, State, County, and Local Agencies

November 13, 1959
Gulfport, Mississippi

C. C. Fancher
Regional Supervisor

I. Highlights of Year's Program Activity

A. Accomplishments for the Fiscal Year

As requested by the Southern Plant Board in a resolution adopted at its Tampa, Florida, meeting on April 14 and 15, 1958, inspectors of Plant Pest Control Division participated in a survey for sweetpotato mosaic to the extent possible in line with their regular duties on other programs. Surveys were made in 2 counties of Alabama, 82 counties of Georgia, 2 counties in Florida, 2 parishes in Louisiana, 4 counties in North Carolina, 8 counties in Mississippi, and 19 counties in South Carolina.

B. Major Deviation from Work Plan, if any

Not applicable.

C. Status of Program at close of year

Sweetpotato mosaic was found in one county in Alabama, two counties in Florida, and in 40 counties in Georgia. The disease has been found previously in 13 other counties in Georgia for a total of 53 counties in the southern part of the state.

II. Program activities during fiscal year

A. Planning and direction

1. How planned and directed

In keeping with the request contained in Resolution Number I, adopted by the Southern Plant Board in their Tampa, Florida meeting, April 14-15, 1958, Supervisors in Charge in the several sweetpotato growing states of the Southern Region were instructed to have their inspectors be on the lookout for sweetpotato mosaic whenever the opportunity presented itself. Such inspections were, for the most part, incidental to regular inspection and control activities of the several programs of the Southern Region. Many of the inspections were made by State inspectors in connection with their regular sweetpotato certification procedure.

B. Technical Assistance

1. Technical assistance provided to farmers and others by program personnel

Not applicable.

2. Technical assistance provided program by cooperating agencies

A sweetpotato mosaic disease training school was held in Tifton, Georgia, prior to beginning inspections, and all inspectors of the Southern Region were instructed in symptoms of the disease by state inspection personnel of the State Department of Entomology. The surveys in Georgia were, in fact, coordinated and directed by the State Department of Entomology.

C. Survey

1. Procedures or techniques used

a. Field

Sweetpotato fields were examined closely during the growing season for evidence of mosaic infection on the leaves. The disease causes a typical mosaic mottling or intermingling of normal green areas with the lighter areas. In addition, sweep nets were used to collect insects to determine if the vector of the disease was present.

b. Laboratory

Insects collected in the sweetpotato fields were forwarded to designated State and/or Federal Entomologists for examination.

2. Accomplishments

The disease was found in 1 county of Alabama, 40 counties of Georgia, and 2 counties in Florida. The Florida in-infestations were observed by Georgia inspectors in fields at the Georgia-Florida state line.

3. Statement or table of pest damage

This disease has not yet become wide spread, but there have been many instances in southern Georgia where individuals suffered complete loss of crop caused by severe infection with this disease. It, therefore, appears to pose a serious threat to sweetpotato growing in the southern states unless measures can be taken to quickly stamp it out when incipient infestations are found.

D. Eradication or Control

1. Procedures or techniques used

Not applicable.

2. Accomplishments

Not applicable.

E. Regulatory

1. Procedures or techniques used

Sweetpotato growing in states affected or likely to become affected with mosaic disease is being governed by state quarantine regulations. No federal regulations have been considered necessary up to the present time.

2. Accomplishments

Several of the southern states have issued quarantines against sweetpotato mosaic.

F. Methods Improvement

1. Work performed

Not applicable.

2. Accomplishments

Not applicable.

G. Other

1. Cooperation received during fiscal year

Not applicable.

2. Associated activities and services

Not applicable.

III. Recommendations for coming year

A. Survey

It is recommended that the Southern Region of the Plant Pest Control Division continue to assist the states in making surveys for this very serious disease.

B. Eradication or control

Not applicable.

C. Regulatory

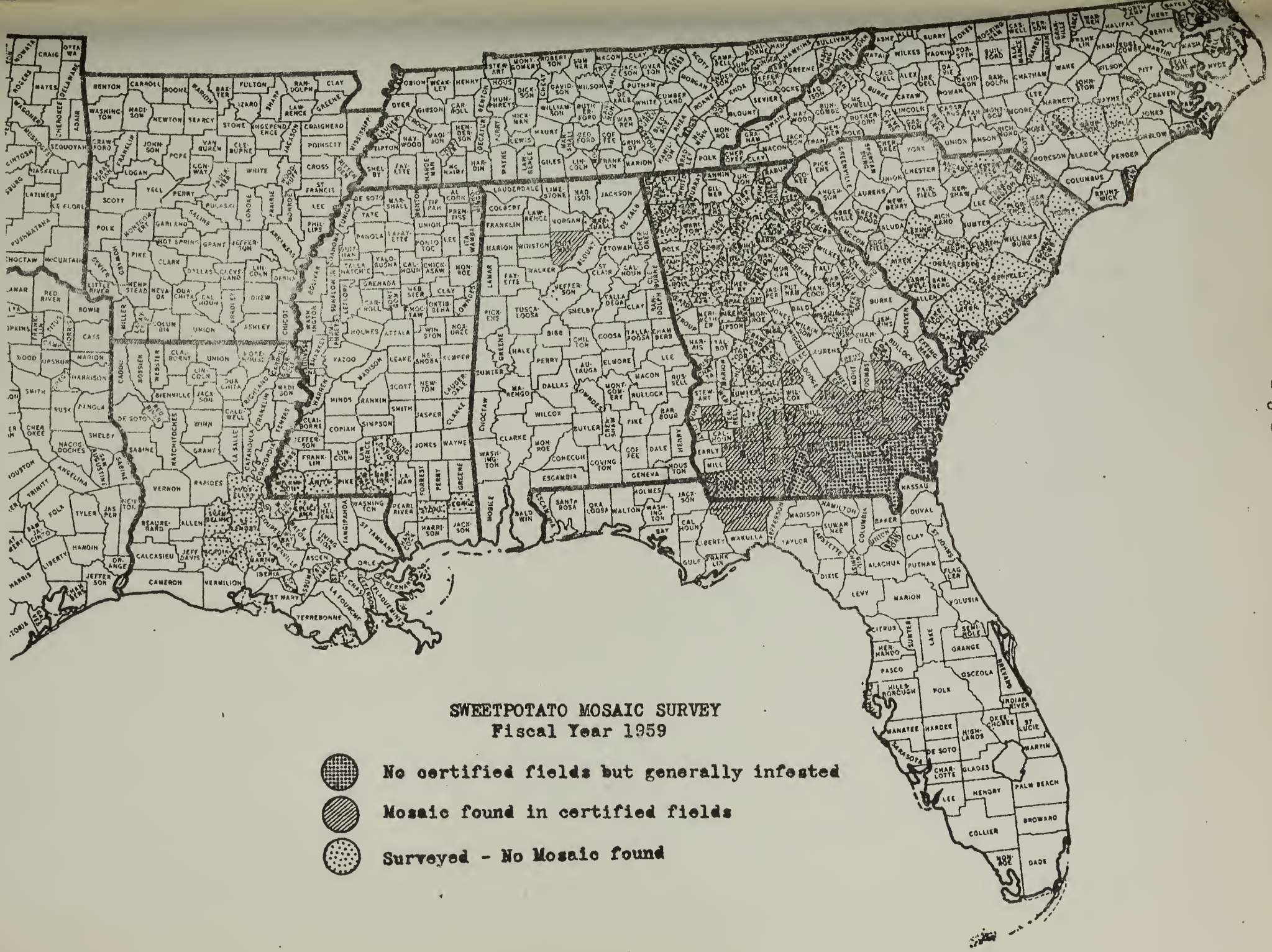
Not applicable.

D. Methods Improvement

Not applicable.

E. Associated Activities

Not applicable.


SWEETPOTATO MOSAIC SURVEY
Fiscal Year 1959
No certified fields but generally infested
Mosaic found in certified fields
Surveyed - No Mosaic found

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
SOUTHERN REGION

ANNUAL PROGRAM REPORT

SWEETPOTATO WEEVIL

July 1, 1958 - June 30, 1959

In cooperation with other
Federal, State, County, and Local Agencies

November 13, 1959
Gulfport, Mississippi

C. C. Fancher
Regional Supervisor

I. Highlights of Year's Program Activity

A. Accomplishments for the fiscal year

Substantial progress was achieved in program objectives during the 1959 fiscal year. Reflected in the accomplishments was the release of 2,117 properties from quarantine and the release of 24 counties from infested status. Approximately 81,493 inspections were made in 144 counties, which resulted in finding 323 new infestations. Infestations were found in 3 counties that had previously been released. Insecticidal treatments were made to approximately 2,549 seedbeds, 12,448 acres of sweetpotato plantings, and 1,326,312 bushels of stored sweetpotatoes.

The number of new infestations found during the year was down 71 percent from last year, and the number of new counties found infested was down 50 percent. The number of farms freed of infestation was 7 percent greater than for the previous year, and the total number of counties freed from infestation status was 41 percent greater than in 1958.

B. Major Deviation from Work Plan

None

C. Status of Program at close of year

There were 1,340 active infestations in the eradication areas at the close of the year as compared with 3,314 one year ago. This represents a decrease of 60 percent. The weevil population in the eradication areas is the lowest since the early days of the program.

II. Program Activity during fiscal year

A. Planning and Direction

1. How planned and directed

The sweetpotato weevil program is a cooperative effort between the Plant Pest Control Division and the interested states, aimed at the control of the insect (1) by its eradication from isolated areas; (2) by population suppression measures in large areas of commercial production to prevent heavy economic losses; and (3) by quarantine enforcement to prevent spread. The program

is operated in the states of Alabama, Florida, Georgia, Louisiana, Mississippi, and South Carolina. The basic work plans were prepared concurrently by the cooperating agencies, consistent with program needs and budget limitations. These work plans were under the direct supervision of Plant Pest Control supervisors, and were carried out by personnel located at the points of greatest need. Plans included frequent field checks, along with grower meetings, newspaper releases, and radio broadcasts to strengthen weak points in the program.

B. Technical Assistance

1. Technical assistance provided to farmers and others by program personnel

Technical assistance was provided by program personnel to growers in the proper cleaning of sweetpotato fields, storages, and seedbeds, and the treatment of seedbeds, fields, and stored sweetpotatoes.

2. Technical assistance provided to program by cooperating agencies

The extension entomologists, with weekly newsletters to county agents, assisted greatly in keeping these agents informed on current phases of weevil control. The county agents, in most of the counties where work was in progress, kept the sweetpotato growers informed of current control practices by weekly articles in local newspapers, and sometimes by radio.

C. Survey

1. Procedures or techniques used

a. Field

Visual inspections for sweetpotato weevil infestations were made of potatoes in the fields at time of harvest, of crop remnants in fields following harvest, of seedbeds, volunteer plants, storages, and wild host plants.

b. Laboratory

None

2. Accomplishments

Surveys were made of 81,493 properties in 144 counties in the 6 affected states; and 323 new infestations were found in 73 counties, including 3 counties where infestations were found in areas previously released. Negative surveys were made in 71 counties including 24 that were found free of infestation. Quarantine restrictions were removed from 2,117 properties.

3. Statement or table of pest damage

Economic damage from the sweetpotato weevil was at a minimum during the 1959 fiscal year.

D. Eradication or Control

1. Procedures or techniques used

The elimination of the sweetpotato weevil from eradication areas was accomplished by enforcement of non-planting zones, supplemented by sanitation measures and insecticidal treatments. These procedures were supported by the Standard State Sweetpotato Weevil Quarantine.

In the control areas, the population of the insect was reduced through the use of certified or approved plants, supported by cleanup of host plants, stored potatoes, and seedbeds, and the use of insecticides in field plantings, seedbeds and storages.

2. Accomplishments

The reduction in number of infested properties in the eradication areas from 3,314 at the beginning of the year to 1,340 at the end of the year was one of the major accomplishments of the eradication efforts. Twenty-four counties were released from infested status, and weevil damage was kept at a minimum.

E. Regulatory

1. Procedures or techniques used

The regulatory procedures employed were in accordance with quarantines promulgated by and for the authority of the states concerned. Program personnel assigned to

regulatory functions made numerous visits to farms, processing plants, and shipping points to insure that potatoes were being handled in such a way as to meet quarantine requirements as to production, storage, and shipping.

2. Accomplishments

Certificate permits were issued for the movement of approximately 6½ million bushels of sweetpotatoes. Cleanup work included 8,905 storages, 10,201 seedbeds, and 114,989 acres of field plantings. Insecticidal treatments were applied to 2,549 seedbeds, 12,448 acres of planting, and 1,326,312 bushels of stored potatoes.

G. Other

1. Cooperation received during fiscal year

a. Major contributions received and importance to program (other than funds).

The Extension Service, through its agents, contributed greatly to the educational phases of the program through their publicity campaigns in bringing to the sweetpotato industry the current eradication and control recommendations.

b. Cooperative work needing strengthening another year

More funds are needed for survey expansion and intensification, and for more detailed application of eradication and control measures to insure quicker eradication accomplishments.

2. Associated activities and services

a. Program servicing

Program information of a local nature was supplied by county agents in local newspapers and at grower meetings. Agricultural reporters for large newspapers, radio and TV stations were also helpful.

(1) Evaluation

Such services are most difficult to accurately evaluate, but the dissemination of information is

a recognized educational process, and the success of the program is attributed largely to these factors.

III. Recommendations for coming year

A. Survey

Additional personnel should be made available for more extensive and intensive surveys in both noninfested and infested counties for detection and determination of progress. Survey is highly essential to the success of the sweetpotato weevil program.

B. Eradication or control

None

C. Regulatory

None

D. Methods Improvement

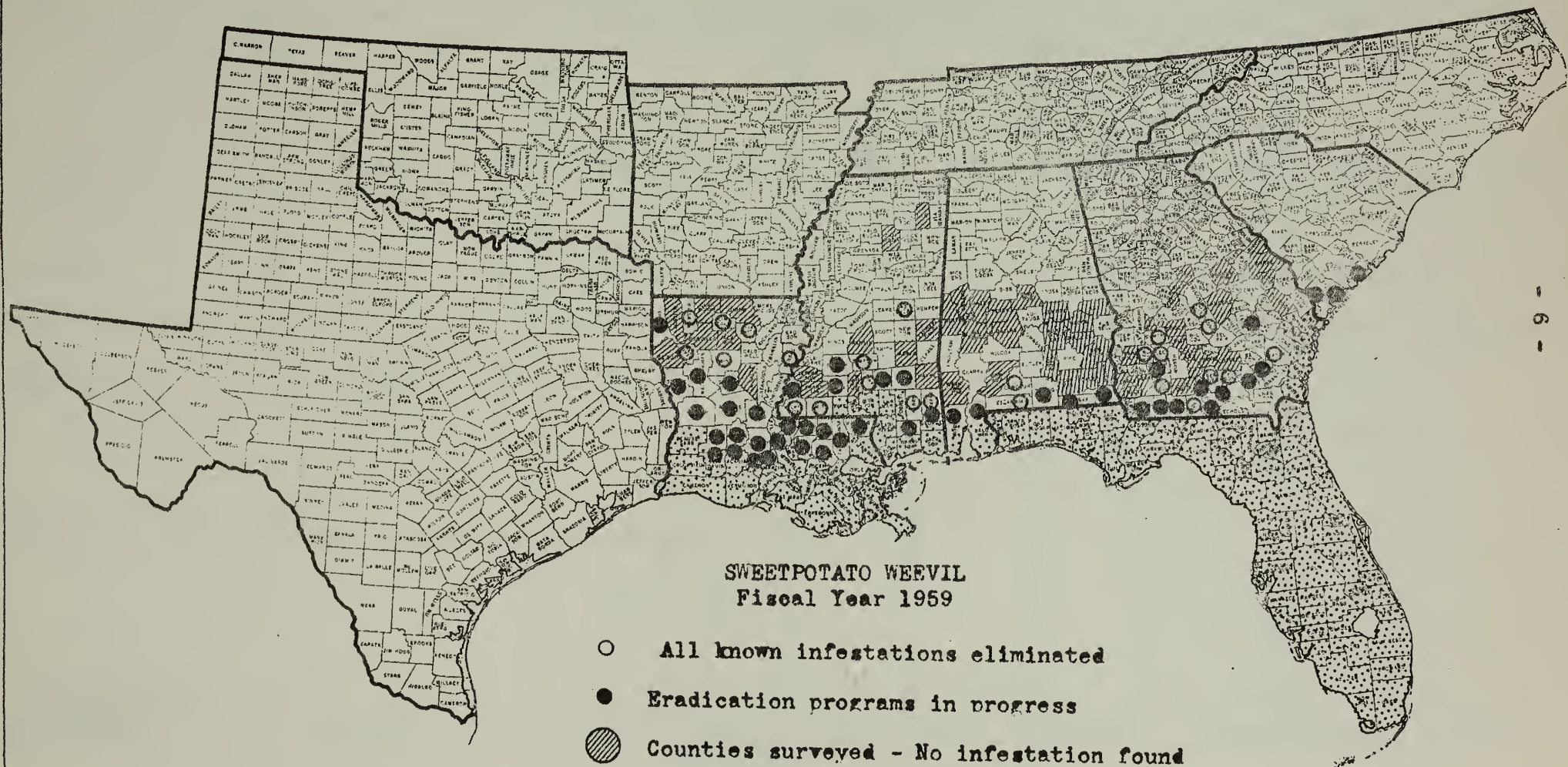
More publicity should be given to the use and methods of insecticidal control in the fields.

E. Associated Activities

It is recommended that public meetings, talks, radio and newspaper articles, and the distribution of circulars be increased during the next fiscal year.

SOUTHERN REGION

PLANT PEST CONTROL DIVISION



SWEETPOTATO WEEVIL

Region: Southern

Prepared by:

Period (Designate: Month, 1-15, 16-31, or 1-31): Fiscal Year 1959

Date prepared:

STATE COUNTY LOCALITY A	SURVEYS Properties Inspections B	Infested C	Released D	Active at Close E	CONTROL Cleaned Storage & Kilns F	Seedbeds G	Acres H	Insecticides Applied Seedbeds I	Acres J	Dusted Bushels K
Alabama	5,152	33	203	35	140	215	4,086	185	579	6,880
Florida	0	0	0	468	0	0	0	0	0	0
Georgia	4,074	53	310	55	53	108	201	82	1,444	0
Louisiana	66,627	213	1,489	641	8,711	9,877	110,681	2,282	9,965	1,319,432
Mississippi	4,188	24	93	130	1	1	21	0	0	0
S. Carolina	1,452	0	22	11	0	0	0	0	460	0
During F/Y 1959, the following adjustments were made:										
			Miss.	- 66						
			La.	-114						
From 7/1/58 Total ~~This Period~~	81,493	323	2,117	1,340	8,905	10,201	114,989	2,549	12,448	1,326,312
Total From July 1										

PPC 7-19
(Feb.-58)

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Service
Plant Pest Control Division

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Service
Plant Pest Control Division

Program Sweetpotato Weevil

SUMMARY OF ASSOCIATED ACTIVITIES

Prepared by: _____

Region Southern

Fiscal year 1959

Area	Public Meetings Attended	Presentations					Feature & News Stories	Extent These Aids Were Used				Special Reports
		Talks	Slides	Films	Radio	TV		Exhibits	Bul.	Cir.	Infest. Maps & Posters	
Alabama	5	5	3							121	4	
Georgia	10	10	6		1		2	2	6	141	20	
Louisiana	12	6					8	2	200	3,500	300	4
Total	27	21	9		1		10	4	206	3,762	324	4

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UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
CENTRAL REGION

ANNUAL PROGRAM REPORT

WHITE-FRINGED BEETLE

July 1, 1958 - June 30, 1959

In Cooperation with Other
Federal, State, County, and Local Agencies

November 13, 1959
Minneapolis, Minn.

R. O. Bulger
Regional Supervisor

TABLE OF CONTENTS

I. HIGHLIGHTS OF YEAR'S PROGRAM ACTIVITY

A. Accomplishment for the fiscal year

One hundred and five sites in six Kentucky counties and sixteen sites in four Missouri counties were scouted for the presence of this pest.

B. Major deviation from work plan

Scouting activities were conducted as planned in Kentucky and Missouri but not in Illinois, due to the press of other more urgent program activities.

C. Status of program at close of year

The white-fringed beetle has not been found in the Region to date.

II. PROGRAM ACTIVITY DURING FISCAL YEAR

A. Planning and direction

The program was planned and directed by the Plant Pest Control Division and cooperating personnel in Kentucky and Missouri.

B. Technical assistance

Plant Pest Control Division personnel in Kentucky and Missouri and three State employees from Missouri attended a survey training session during late July and early August at Memphis, Tennessee. Mr. John F. Landrum, Supervisor in Charge of Tennessee in the Southern Region, instructed these men in the white-fringed beetle survey methods. Later in August a Southern Region employee, R. E. Roberts, assisted Plant Pest Control employees in Kentucky with the survey along the Nashville, Chattanooga, and St. Louis Railroad, from the Kentucky-Tennessee State line north to Paducah, Kentucky.

C. Survey

Inspectors scouted railroads, railroad yards, industrial sites, truck terminals, civic centers, and residential sites for feeding signs of the adult beetles on plant foliage. The survey was made in local areas of Calloway, Carlisle, Graves, Hickman, McCracken, and Marshall Counties, Kentucky, and in Pemiscot, New Madrid, Scott, and Stoddard Counties, Missouri. No feeding signs of the beetle were observed.

D. Eradication or control

Not applicable.

E. Regulatory

Not applicable.

F. Methods improvement

Additional Federal and State personnel in the Central Region were trained for this work. These men received instruction from experienced personnel in the Southern Region.

G. Other

The State of Kentucky made available the services of a Deputy State Inspector to assist with the survey in that State. Missouri cooperated in the work on a 50-50 basis.

III. RECOMMENDATIONS

A. Survey

The survey should be continued in Kentucky and Missouri during the next fiscal year. Southern Illinois counties adjacent to Kentucky and Missouri should also be surveyed.

B. Eradication or control

No recommendations.

C. Regulatory

No recommendations.

D. Methods improvement

More Federal and State employees should be trained in the survey methods used for finding this pest.

E. Associated activities

Publicity on the white-fringed beetle should be made available to the public by Plant Pest Control employees and the Extension Service. Greater use of bulletins, press, radio, and slides at meetings are recommended.

White-fringed Beetle - Cooperative Aid Received - Fiscal Year 1959

Total	Cash	Personal Service	Equipment & Supplies	Space	Total of Cash & Equiv.*	Intangible Service Estimate**	Source Grand Total
Kentucky	0	0	0	0	0	$300.00	$300.00
Missouri	0	0	0	0	0	200.00	200.00
Totals	0	0	0	0	0	$500.00	$500.00

*Limited to direct appropriation, allotments from other sources, services and supplies for which there is a definite replacement value.

**Limited to services incidental to other activities for which only an estimated value is available.

White-fringed Beetle - Expenditures by Source and by Activity - Fiscal Year 1959

State	Planning & Direction	Technical Assistance	Survey	Control	Regulatory	Methods Improvement	Other	Total
CASH & EQUIVALENT*								
PPC Division	$100.00	0	$1,900.00	0	0	0	0	$2,000.00
CONTRIBUTED SERVICES**								
Kentucky	0	0	$300.00	0	0	0	0	$ 300.00
Missouri	100.00	0	100.00	0	0	0	0	200.00
Subtotals	$100.00	0	$400.00	0	0	0	0	$ 500.00
Grand Totals	$200.00	0	$2,300.00	0	0	0	0	$2,500.00

*Direct appropriation, allothents other sources, services & supplies for which there is a definite replacement value.

**Services incidental to other activities, for which only an estimated value is available.

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UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
EASTERN REGION

ANNUAL PROGRAM REPORT

WHITE-FRINGED BEETLE

July 1, 1958 - June 30, 1959

COOPERATING AGENCIES:

State Plant Pest Control Agencies
Extension Service
and
Plant Pest Control Division
Agricultural Research Service
U. S. Department of Agriculture

November 1959
Moorestown, New Jersey

H. L. Smith
Regional Supervisor

TABLE OF CONTENTS

I. Highlights of year's program activity

A. Accomplishments for the fiscal year

Efforts were continued in cooperation with the state of New Jersey to eradicate the white-fringed beetle infestation at Vineland, New Jersey. Surveys were conducted during the summer of 1958 for the detection of adult beetles while larval surveys were made during the spring and fall months. In conjunction with other program activities, Division employees made observations in four West Virginia and five Virginia Counties. State cooperators made similar observations in 20 additional Virginia Counties. All results were negative.

Regulatory measures as authorized by a State of New Jersey quarantine order were employed to prevent possible local or long distance spread of the pest.

B. Major deviation from work plan

There was no deviation from work plan.

C. Status of program at close of year

Since the Vineland, New Jersey infested properties and bordering farmlands were treated with dieldrin in 1955, a rapid reduction in beetle population has resulted and this year marked the first year of entirely negative survey results. In last year's work, the larval survey proved negative, but two beetles were found during the adult survey. The sites where these beetles were found were apparently effectively retreated as indicated by this year's survey results.

Vigorous survey and regulatory activities will be continued for several years.

II. Program Activity During Fiscal Year

A. Planning and Direction

1. How planned and directed

Program activites were planned and directed jointly by State cooperators and the Plant Pest Control Division.

B. Technical Assistance

1. Technical assistance provided to farmers and others by program personnel.

Farmers and shippers were advised by State and Division personnel on regulatory requirements and eradication measures.

The Southern Region temporarily assigned an experienced inspector to help coordinate the program and advise on survey procedures during the period July 28 - August 4, 1958

2. Technical assistance provided to program by cooperating agencies

None

C. Survey

1. Procedures or techniques used

a. Field

In New Jersey, very intensive inspections were made where beetles or fragments of beetles were found the previous year. When looking for beetles or feeding signs in cultivated fields, row-by-row inspections were made. Regular close inspections were made outside the treated area and at nearby auction houses, packing plants, produce companies, and railroad right-of-ways. Grub observations were made on freshly tilled land during the spring plowing season and sweet potatoes were checked for grub damage during fall harvest.

In the Virginias, the sites where observations were made included railroad yards, truck stops, warehouses, and other locations where transient carriers might have occasion to stop.

b. Laboratory

Suspect specimens are submitted to the Entomology Research Division for determination.

2. Accomplishments

All properties previously found infested and bordering environs, involving 350 acres, were intensively inspected. Inspections were also made at selected sites in the vicinity of Vineland, New Jersey. A total of 173 properties was scouted.

In conjunction with other program surveys, cursory surveys were made at 30 selected sites in the southeastern section of Virginia and at 118 sites in West Virginia.

3. Statement or table of pest damage

No crop damage was observed.

D. Eradication or Control

1. Procedures or techniques used

Eradication of the infestation through continued survey and treatment is the objective of this work. Although no beetles were found this year, one-quarter acre, where beetle remnants were found in July was treated with 10% granular dieldrin at 50 lbs. per acre. Application was by hand-broadcast.

2. Accomplishments

Infestation conditions did not warrant control measures other than those recorded above.

E. Regulatory

1. Procedures or techniques used

A state quarantine order pertaining to infested properties and regulating movement of products from them, issued by the New Jersey Department of Agriculture, remains in effect. Inspectors checked on movement of products from infested properties.

2. Accomplishments

During the reporting period, Federal and State inspectors made frequent checks on movements of products to assure continued compliance with quarantine requirements.

F. Methods Improvement

1. Work performed

Not applicable.

2. Accomplishments

Not applicable.

G. Other

1. Cooperation received during fiscal year

The State of New Jersey continued to support fully the all-out effort to eradicate this pest, and furnished all full time men engaged in scouting and eradication activities. Growers and property owners cooperated fully with regulatory and survey activities.

2. Associated Activities

Bulletins were provided to all concerned and other interested people. Contacts were maintained and progress of the work was discussed with county officials and local growers.

III. Recommendations for coming year

A. Survey

It is recommended that (1) survey operations in the infested areas be continued on the same scale as in previous years, and (2) detection surveys in other sections of the region, particularly southern sections, be expanded.

B. Eradication and Control

Continue the all-out effort to eradicate the pest in New Jersey.

C. Regulatory

Continue State regulatory measures now in effect.

D. Methods Improvement

Not applicable.

E. Associated Activities

Expand use of bulletins and visual aids to inform and alert farmers.

WHITE-FRINGED BEETLE

EASTERN REGION FISCAL YEAR 1959

STATE COUNTY LOCALITY A	SITES INSPECTED		ACRES OF NEW INFESTATION					
				Farmland				
	Nursery B	Other C	Nursery D	Tilled E	Untilled* F	Woodland G	Industrial & City H	Total I
New Jersey	2	171	-	-	-	-	-	-
Virginia	-	30	-	-	-	-	-	-
West Virginia	-	118	-	-	-	-	-	-
Total from July 1	2	319	-	-	-	-	-	-
Total from beginning of Program	6	713	-	30	20	-	-	-

*Woodland excluded

STATE COUNTY LOCALITY A	Nursery B	ACRES TREATED WITH INSECTICIDES (First Treatment)						ACRES OF RETREATMENT I
		FARMLAND (Include Woodland)			NON-FARMLAND			
		With Ground Equipment						
		Broadcast Insecticide Only C	With Fertilizer D	With Aircraft E	Surface F	With Aircraft G	Foliage H	
New Jersey	-	-	-	-	-	-	-	1/4
Total from July 1	-	-	-	-	-	-	-	1/4
Total from beginning of Program	-	155.3	-	-	-	154	77	82

PPC 7-13 & 13a

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
SOUTHERN REGION

ANNUAL PROGRAM REPORT

WHITE-FRINGED BEETLE

July 1, 1958 - June 30, 1959

In cooperation with other
Federal, State, County, and Local Agencies

November 13, 1959
Gulfport, Mississippi

C. C. Fancher
Regional Supervisor

I. Highlights of Year's Program Activity

A. Accomplishment for the fiscal year

Surveys were made for the white-fringed beetle in all states in the Southern Region, except Oklahoma. Three counties in Georgia and three in Tennessee were found infested for the first time.

The continuation of expanded control and eradication activities through the year has now resulted in the treatment of all known infestations in the state of South Carolina (10 counties) and all known infestations in 7 counties of Alabama, 24 counties of Georgia, 4 parishes of Louisiana, 14 counties of Mississippi, 19 counties of North Carolina, and 8 counties of Tennessee. More than 13,600 acres were given semipermanent treatments in Florida, with only 62,058 known infested acres remaining to be treated. Eradication apparently has been accomplished in Scotland County, North Carolina, and in Fairfield County, South Carolina. In Mississippi, inspection was negative in 13 counties where eradication measures have been practiced.

Insecticides applied by growers, industry, etc., and the Program have rendered populations in general to such low levels that commercial damage was practically nonexistent. Necessary quarantine work was continued to prevent artificial dissemination of the pest.

Additional infested acres found during the year totaled 58,940. Control or eradication soil treatments were applied to 113,423 acres, and foliage treatments to 17,019 acres.

B. Major Deviation from Work Plan

There was no major deviation from the work plan in any of the states. In some of the states combination treatments and inspections were made in connection with other programs. In Tennessee, an overall coverage of the city of Memphis was begun. The application rate of granular dieldrin was changed this year from 4 lbs. to 3 lbs. per acre.

C. Status of Program at close of year

In Alabama, eradication apparently has been accomplished in seven of the 29 counties considered to be infested.

Inspection work was intensified around areas in Florida set up for eradication treatments. Treatments have progressed to such an extent that it is believed overall eradication treatments will be completed during the next fiscal year of at least five of the nine infested counties.

In Georgia, 133,315 acres in 67 counties are recorded as being infested. Delimiting of all infested acreage is in progress in order to adjust these figures and bring them into line with present treatment needs.

Beetle populations were found to be very low in Louisiana, where an aggressive treatment program is under way with the objective of treating all infested acreage in the parishes lying east of the Mississippi River, known as the Florida Parishes , with the possible exception of the city of Bogalousa, by the end of the current season. Reinspection of all areas considered to be infested is revealing much acreage on which eradication apparently has been accomplished.

Some local spread has occurred in many of the infested counties of Mississippi, and sizable infested areas were found in Neshoba and Green Counties, which are distantly removed from areas previously known to be infested. During the year 6,022 acres were treated for control and eradication, including the final applications on the eradication areas in Montgomery and Sharkey Counties.

In North Carolina inspections were made in 67 counties, with most of the work being done in and around the known infested areas. Treatment of all known infested land was completed in 18 counties, and progress is being made in completing treatments in the remaining 8 infested counties.

All known infested land in South Carolina has been treated.

Additional spread of the white-fringed beetle was found in Bolivar, Paris, and Jackson, Tennessee, and new finds were made in Henderson, McNairy, and Gibson Counties. All these spreads and new finds have been treated with a good margin as protection. With the exception of the cities of Paris and Memphis, all known infestations have been treated in Tennessee. In Memphis, infestations have continued to spread to the point that they are now known to exist in all sections of the city, or approximately 90,000 acres.

II. Program Activity during fiscal year

A. Planning and direction

1. How planned and directed

The White-fringed Beetle Program is cooperatively planned and executed by Division personnel in collaboration with officials of the State Departments of Agriculture, and policies established in the Memorandum of Understanding

between ARS and the State Departments of Agriculture are followed. Plans outline proposed areas of the states for surveys, eradication treatments and control operations. Field direction of the program is a major responsibility of the Division, and the supervisor in charge is assisted by the district and work unit supervisors in developing and completing the plans which have been agreed upon.

B. Technical Assistance

1. Technical assistance provided to farmers and others by program personnel

Technical assistance is provided to farmers and others through personal contact by State and Federal program personnel, and through the medium of press, radio, and television. Interested individuals are furnished pamphlets and other published program aids. Direct technical assistance is furnished to nurserymen, contractors, transportation companies, and others affected by the quarantine in treating their properties and articles to meet quarantine requirements, as well as in applying control and eradication measures. Meetings, also, are held with county agents, other State agricultural workers, and farmers, at which the biology and control of the white-fringed beetle is explained and the importance of early detection is emphasized.

C. Survey

1. Procedures or techniques used

a. Field

Surveys are conducted to detect new infestations in areas not known to be infested and, also, to determine the effectiveness of treatments for regulatory, control, and eradication purposes. Larval inspection is employed in the winter and spring months, primarily to delimit areas of general infestation. Adult inspection is carried on during the summer months. Visual feeding signs on margins of leaves of preferred hosts indicate the need for making more intensive examinations. Visual survey, however, is gradually being supplanted by net sweepings, which seem to be effective. Observations for the beetle are made in connection with all survey work conducted on other programs in all states of the Southern Region, with

the exception of Oklahoma. Most of the survey work for the beetle is done during the adult season. Priority is given to surveys of areas in close proximity to known infestations and those points which are vulnerable such as military installations, newly developed housing projects, and avenues of transportation leading from infested areas. All nurseries are given one or more careful inspections.

b. Laboratory

Specimens collected in the field are submitted to the laboratory at Gulfport for identification.

2. Accomplishments

In Alabama, 657 nursery sites and 11,867 other sites were inspected, and 15,826 acres were found to be infested, the greater part of which was on the periphery of already established infestations. No new counties were found infested.

Inspection of one nursery and 1,214 other sites in 17 counties of Arkansas was negative

No new counties were found infested in Florida, although in inspecting 34 nursery and 1,492 other sites, extensions to some of the previously known infested areas, totaling 10,251 acres, were located.

In Georgia, 8,498 sites were inspected and 24,045 additional acres were found infested, including infestations in three new counties.

Surveys of 96 nurseries and 2,744 other sites in 30 parishes of Louisiana revealed 411 infested acres in Acadia, St. Tammany, and Tangipahoa Parishes, already known to be infested.

Surveys in Mississippi disclosed 2,254 additional infested acres in 19 counties, but inspections in 13 counties indicate apparent eradication.

An additional 4,498 acres of infested land were located in North Carolina.

In South Carolina, surveys in areas distant from known infestations were made in 17 counties, all of which were negative. Surveys around margins of infested properties resulted in finding an additional 899 acres.

In Tennessee, 53 nursery sites and 4,532 other sites were inspected in 28 counties, and 756 acres of new infestation were found. Some of these finds involved three new counties: McNairy, Henderson, and Gibson.

3. Statement or table of pest damage

Because of the effective use of insecticides for the control of this pest throughout the Region, there was very little economic damage during Fiscal Year 1959 from the white-fringed beetle. Some damage was reported to tobacco in Irwin County, Georgia, and to vegetable crops in several locations in that state. Reports of spot injury were received from numerous farms in Mississippi, including 20 acres of corn in Greene County which had to be planted twice, 60 acres of watermelons ruined in Lamar County, and several plantings of potatoes and sweetpotatoes damaged in Covington County.

D. Eradication or Control

1. Procedures or techniques used.

Direct applications of insecticides, mainly dieldrin and heptachlor, are made to eliminate isolated infestations, to provide certification for farm and nursery products and to reduce crop damage. Insecticide-fertilizer blends are used on crops and for flower beds and lawns. Applications were made by plane, mechanized ground equipment, and hand seeders.

2. Accomplishments

In Alabama, during the Fiscal Year 1959, 1,119 acres of nurseries, 24,393 acres of farmland, and 8,817 acres of non-farmland were treated with overall applications of granulated dieldrin or heptachlor; 4,500 acres were treated with insecticide-fertilizer blend; 1,712 acres were treated with foliage applications, and 373 acres were re-treated with overall granular dieldrin applications.

Semi-permanent treatments were made in Florida on 13,651 acres, and insecticidal-fertilizer applications were used by growers in controlling infestations in 1,684 acres. Only 62,058 acres remain to be treated in the entire state.

In Georgia, 12,939 acres of farmland and 13,238 acres of non-farmland received semi-permanent type treatments, mainly in outlying counties where eradication is in progress. Foliage treatments were applied to 14,616 acres, many of these treatments being made in connection with treatment of other insects, such as mosquitoes, flies, etc.

Treatments were made of 3,159 acres in 10 parishes in Louisiana, with all known infested acreage being treated in Acadia, East Baton Rouge, and Livingston Parishes. This also includes 83 acres of nurseryland in 9 parishes.

Eradication programs were completed in Montgomery and Sharkey Counties, Mississippi. The Naval Air Force Base in Lauderdale County treated 1,200 acres for regulatory purposes, and numerous control and regulatory sites were treated throughout the state for a total of 6,073 acres.

Treatment of all known infested land was completed in 7 counties in North Carolina during this fiscal year, which,added to the 11 treated in previous years, makes a total of 18 of the 27 known infested counties in this state treated in their entirety. Treatments were applied to 4,465 acres, and 15,493 acres remain to be treated. With the treatment of 1,819 acres, a major control objective was reached this year in South Carolina, where all known infested land has now been treated.

In Tennessee, a start was made toward an overall coverage of infested acreage in the city of Memphis in Shelby County. Treatments were applied to 3,540 acres, including a solid block in the southwest part of the city and another large block in the central portion of the city in which the properties of Buckeye Cellulose Corporation, Nickey Bros. Lumber Company, and the Farmers' Market are located.

Treatments were made, also, to 618 acres in other counties in the state, for a grand total of 4,158 acres.

E. Regulatory

1. Procedures or techniques used

All regulatory treatments have the aim of eliminating the spread of the white-fringed beetle to noninfested areas. Applicable certificates or approved stamps are used to certify the movement of approved products, and all establishments operating under the Federal and State

quarantines are required to sign dealer-carrier agreements as a basis for obtaining certification for shipment of restricted products. This certification is based on treatments made in compliance with Federal Quarantine No. 72.

2. Accomplishments

Certification treatments were kept up to date at all nurseries in the infested area. In addition, treatments were made on commercial crop land and around industrial concerns, etc., to allow free movement of material and products. Activity points such as gravel pits, school grounds, highways, scrap metal yards, railroad yards, etc., were treated where necessary to close the major avenues of spread. Cleaning of farm and industrial machinery moving from infested areas was checked for compliance with quarantine regulations.

F. Methods Improvement

1. Work performed

Progress was made in the modification of both aircraft and ground equipment to provide more uniform distribution of insecticides.

2. Accomplishments

The use of planes in making applications has speeded up treatments and has permitted treatment of acreage not accessible to ground equipment.

G. Other

1. Cooperation received during the fiscal year

a. Major contributions received and importance to program

State pest control officials cooperated in planning and directing the programs. Other State, County, and Federal agencies cooperated by furnishing materials and labor. Individuals, nurserymen, growers, industry, and business, also, provided materials and labor for meeting program requirements. Excellent cooperation was received from military establishments, the Extension Service, and other Agricultural agencies.

b. Cooperative work needing strengthening another year

While excellent cooperation has been obtained on the whole, there is a need to further interest property owners, as well as certain state officials, in making an intensive effort to reduce still more the current white-fringed beetle infestation with eradication as the ultimate aim.

2. Associated activities and services

Federal and State personnel attended public meetings of farmers, growers, nurserymen, and others, and presented talks on the beetle, using slides, maps, etc., to illustrate points they wished to emphasize. Bulletins and circulars were distributed through the Extension Service. Information was disseminated through newspapers, radio, and television; and displays and exhibits were placed at various county and state fairs.

III. Recommendations for coming year

A. Survey

Inspection work should be continued at potential points of spread in order to locate incipient infestations and eradicate them while small, saving cost in materials and labor. Surveys should be extended and intensified to re-evaluate acreage now being carried as infested in order to determine eligibility for release from quarantine. Comprehensive surveys are needed especially in areas where eradication programs are to be initiated. General survey to the extent possible with available funds is recommended where no infestations are known to exist.

B. Eradication or Control

The aggressive treatment program now under way should be continued and intensified, with the aim of progressively eliminating the white-fringed beetle. Where possible, treatments for the white-fringed beetle should be combined with those for the imported fire ant to reduce operating costs. Every effort should be made to eliminate as quickly as possible any incipient or outlying infestations that may be located.

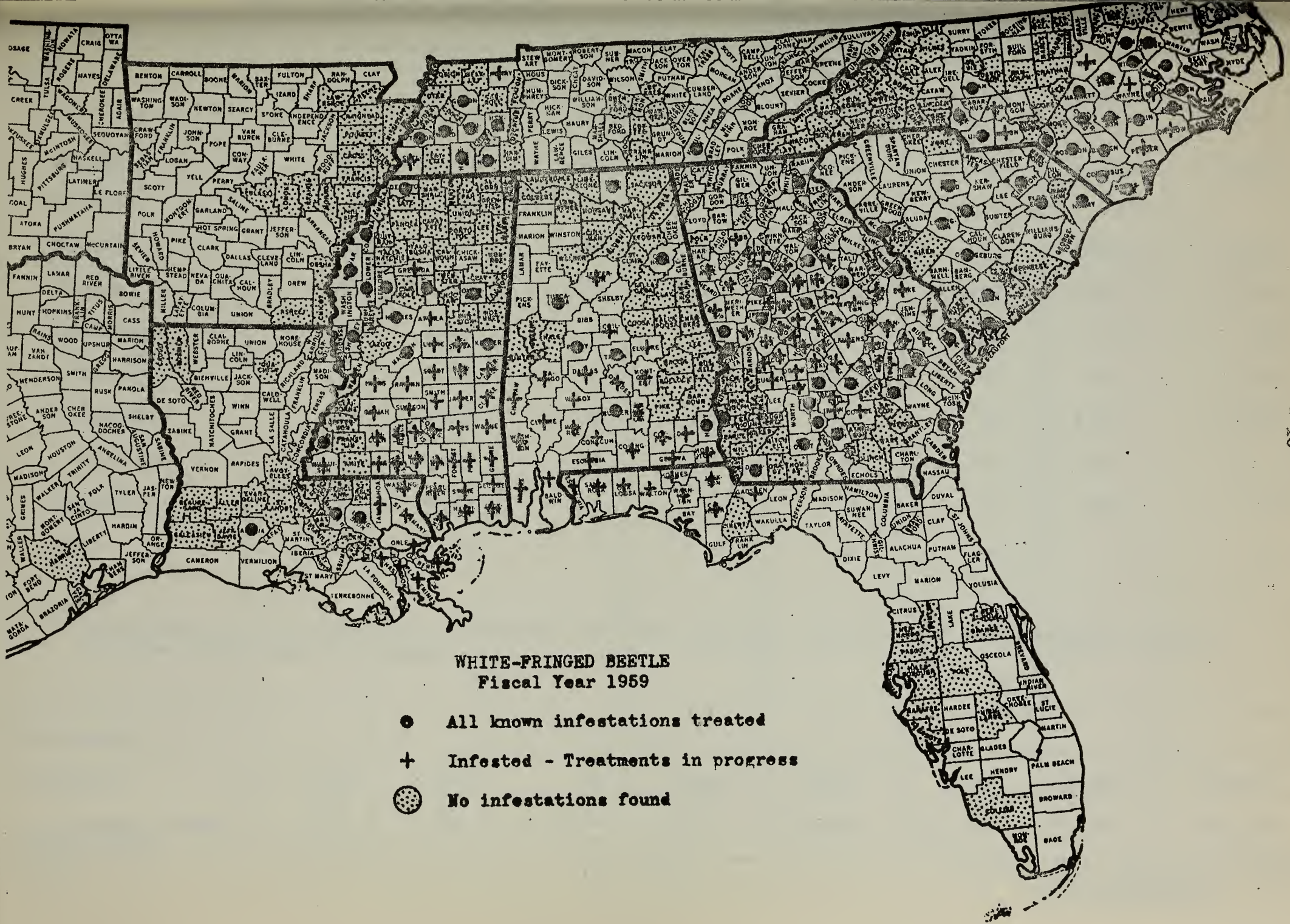
C. Regulatory

Special attention should be given to applying insecticidal treatments to nurseries, farmland areas, and industrial

points to avoid the necessity of treating products to render them eligible for movement. Rigid enforcement of State and Federal quarantines should be continued.

D. Methods Improvement

Further study is suggested on the effectiveness of net sweeping as a supplement to visual survey for the white-fringed beetle which would enable inspectors to cover wider areas during a single inspection season. Study and development of new dispersal equipment to give more even distribution of granular materials should be encouraged.


WHITE-FRINGED BEETLE
Fiscal Year 1959
All known infestations treated
Infested - Treatments in progress
No infestations found

WHITE-FRINGED BEETLE

Southern

Period (Designate: Month, 1-15, 16-31, or 1-31): Fiscal Year 1959

Date prepared:

STATE COUNTY LOCALITY A	SITES INSPECTED		ACRES OF NEW INFESTATION					
	Nursery B	Other C	Nursery D	Farmland: Tilled E	Farmland: Untilled* F	Woodland G	Industrial & City H	Total I
Alabama	657	11,867	18	7,114	1,789	686	6,219	15,826
Arkansas	1	1,214	0	0	0	0	0	0
Florida	34	1,492	32	3,064	2,277	833	4,045	10,251
Georgia	67	8,498	0	14,701	3,942	1,816	3,586	24,045
Louisiana	96	2,744	0	15	385	0	11	411
Mississippi	271	7,271	0	802	372	370	710	2,254
N. Carolina	527	4,657	21	1,469	614	81	2,313	4,498
S. Carolina	27	1,531	16	111	94	0	678	899
Tennessee	53	4,532	0	0	3	0	753	756
Texas	0	2	0	0	0	0	0	0
Total This Period								
Total From July 1	1,733	43,808	87	27,276	9,476	3,786	18,315	58,940
Total from Beginning of Program	XXX	XXX	2,070	235,517	119,439	150,993	193,689	701,708

* Infestation in Scotland Co., N.C., considered eradicated (negative survey for 3 or more consecutive years). 15 acres deleted from these figures.

* Woodland excluded.

PPC 7-13 (Mar.-58)

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Service
Plant Pest Control Division

Infestation Summary

Program: White-Fringed Beetle Period: Fiscal Year 1959

Region: Southern

State	Infested Acres			
	Prior to this F/Y	Found during this F/Y	Released this F/Y*	Total June 30, 1959
Alabama	248,113	15,826	0	263,939
Florida	84,977	10,251	0	95,228
Georgia	108,887**	24,045	0	132,932
Louisiana	23,027	411	0	23,438
Mississippi	137,179**	2,254	0	139,433
N. Carolina	26,461**	4,498	15	30,944
S. Carolina	4,009**	899	0	4,908
Tennessee	10,130	756	0	10,886
Total	642,783**	58,940	15	701,708

* Infestation considered eradicated (negative survey for 3 or more consecutive years).

** Re-evaluation of infested acreage in progress, and figures include following adjustments in data, as reported in annual report for F/Y 1958.

Ga.	- 118
Miss.	+ 330
N. C.	+ 15
S. C.	+ 510
Total(net)	+ 737

STATUS OF POPULATIONS - June 30, 1959

Program: White-Fringed Beetle

Fiscal Year 1959

Region:

~~XXXXX~~: Southern

County	No specimens found		Light populations		Moderate populations		Heavy populations		Total	
	Acres	Per-cent	Acres	Per-cent	Acres	Per-cent	Acres	Per-cent	Acres	Per-cent
Alabama	61,926	24	111,679	42	82,062	31	8,272	3	263,939	100
Florida	33,170	35	15,368	16	27,526	29	19,164	20	95,228	100
Georgia	60,179	45	54,865	41	15,872	12	2,016	2	132,932	100
Louisiana	7,120	30	16,234	69	84	1(-)	0	0	23,438	100
Mississippi	29,986	21	79,779	57	26,243	19	3,425	3	139,433	100
N. Carolina	26,445	85	4,499	15					30,944	100
S. Carolina	4,009	82	899	18					4,908	100
Tennessee	4,532	42	5,851	54	503	4			10,886	100
Total	227,367	32	289,174	41	152,290	22	32,877	5	701,708	100

Gulfport, Miss.
July 1959

WHITE-FRINGED BEETLE

Southern

Period (Designate: Month, 1-15, 16-31, or 1-31): Fiscal Year 1959

Date prepared:

STATE COUNTY LOCALITY A	Nursery B	ACRES TREATED WITH INSECTICIDES (First Treatment)						ACRES OF RETREATMENT I
		FARMLAND (Include Woodland)			NON-FARMLAND		Foliage H	
		With Ground Equipment		With Aircraft E	Surface F	With Aircraft G		
		Broadcast Insecticide Only C	With Fertilizer D					
Alabama	1,119	12,095	4,500	12,298	4,889	3,928	1,712	373
Florida	58	8,292	1,684	10,973	4,626	2,594	0	27
Georgia	148	7,636	536	5,303	8,904	4,334	14,616	723
Louisiana	83	226	0	0	2,850	0	542	256
Mississippi	467	1,901	0	0	3,507	0	60	87
N. Carolina	173	1,491	0	0	2,801	0	0	106
S. Carolina	39	502	30	0	1,174	104	0	333
Tennessee	362	15	0	0	3,781	0	149	7
Total This Period								
Total From July 1	2,449	32,158	6,750	28,574	32,532	10,960	17,019	1,912
Total from Beginning of Program								

PPC 7-13a
(Mar.-58)

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Service
Plant Pest Control Division

STATUS OF WHITE-FRINGED BEETLE PROGRAM - June 30, 1959

Region: Southern
Program: White-Fringed Beetle

State	Estimated acres				Number counties		
	Found infested from beginning of program	Infested area treated, treatment still effective	Infested area remaining to be treated	Aggregate * treated since 1946 (first semi-permanent treatments	Found infested from beginning of program	All known infestations treated	Known infestation eradicated (negative survey 3 or more years)
Alabama	263,939	41,103	222,836	126,927	29	7	0
Florida	95,228	33,170	62,058	73,957	9	0	0
Georgia	133,024	33,706	99,318	496,550	73	24	6
Louisiana	23,438	4,724	18,714	6,676	11	4	0
Mississippi	139,433	9,938	129,495	23,706	48	14	0
N. Carolina	30,959	15,466	15,493	15,466	27	19	1
S. Carolina	4,959	4,959	0	4,959	10	10	1
Tennessee	10,934	4,519	6,415	8,197	10	8	1
TOTAL	701,914	147,585	554,329	756,438	217	86	9

*Includes periphery, retreatment, treatment for regulatory or precautionary purposes, foliage treatments, etc. N. and S. Carolina figures in this column include only treatment of infested area, treatment still effective.

Note:

Data in this table are based on a re-evaluation study now in progress but not completed. Revisions in figures will be necessary from time to time.

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Service
Plant Pest Control Division

Program White-Fringed Beetle

SUMMARY OF ASSOCIATED ACTIVITIES

Prepared by: _____

Region Southern

Fiscal year 1959

Area	Public Meetings Attended	Presentations					Feature & News Stories*	Extent These Aids Were Used				Special Reports
		Talks	Slides	Films	Radio	TV		Exhibits	Bul.	Cir.	Infest. Maps & Posters	
Alabama	14	19	8	-	-	1	4	4	12	25	1	4
Florida	17	16	1	-	-	-	219	-	20	-	-	-
Georgia	45	34	41	1	6	6	19	10	498	790	108	-
Louisiana	3	3	3	-	-	-	-	-	-	-	3	-
Tennessee	6	7	5	-	1	-	1	-	25	165	20	1
Total	85	79	58	1	7	7	243	14	555	980	132	5

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
SOUTHERN REGION

ANNUAL PROGRAM REPORT

WILD COTTON

July 1, 1958 - June 30, 1959

In cooperation with other
Federal, State, County, and Local Agencies

November 13, 1959
Gulfport, Mississippi

C. C. Fancher
Regional Supervisor

I. Highlights of Year's Program Activity

A. Accomplishment for the fiscal year

All wild cotton work areas in the 11 counties of Florida were worked one time. Surveys were continued in Monroe County for pink bollworm infestations of hibiscus, particularly on Plantation Key. Additional hibiscus surveys were made in Dade County. Insecticidal treatments were applied to the known infested hibiscus plants to try to eliminate this infestation. A limited number of okra plantings was inspected for the presence of pink bollworm in the southern portion of Dade County.

B. Major deviation from Work Plan, if any

There were no major deviations from work plans followed for the past several years.

C. Status of Program at close of year

All previously known wild cotton areas were worked one time. Because of abnormal rains during the normally dry season, there was some delay in field operations as well as loss of time in the field. Pink bollworm infestations were found on five locations in Monroe County and one location in Dade County in the extreme south, southwestern portions of the state. A total of 38 larval specimens of the pink bollworm was recovered in wild cotton in the two counties during the year. Infestations continued to recur in the hibiscus plantings at Plantation Yacht Harbor in Monroe County. From 11 recurring infestations found on this particular property, 49 pink bollworm larval specimens were found.

II. Program Activity during fiscal year

A. Planning and Direction

1. How planned and directed

General program plans were discussed with Interior Department, Florida State Plant Board Officials, and County Agricultural Agents in the counties where the program operates. Detailed work plans were then reviewed with District and Work Unit Supervisors.

B. Technical Assistance

1. Technical assistance provided to farmers and others by program personnel

   Not applicable.

2. Technical assistance provided to program by cooperating agencies

   Not applicable

C. Survey

1. Procedures or techniques used

   Known wild cotton locations were visually surveyed for the presence of seedlings, and surveys were made in cities for plantings of ornamental cotton and other plants attacked by the pink bollworm.

2. Accomplishments

   During the year, 14,802 acres, previously known to support the growth of the host plants, were surveyed in the 11-county south Florida area. Field operations were not started until a month later than in previous seasons. A total of 85,917 fruiting wild cotton, hibiscus, and okra was inspected for the pest. A total of 87 larval specimens of the pink bollworm was recovered from 9 infestations during the year.

3. Statement or table of pest damage

   Since no commercial cotton is grown in the 11-county area, damage is not of economic importance. The purpose of the containment program is to prevent a build-up of heavy populations and to reduce possibility of spread to commercial cotton-producing areas of the Southeastern States.

D. Eradication or Control

1. Procedures or techniques used

   As field crews scout all likely locations above mean high tide which might support wild cotton plants, as well as wild cotton, any plants found are destroyed by manually pulling and leaving them exposed to the sun. Herbicides are used wherever practicable to inhibit seed germination and destroy young seedlings.

E. Regulatory

Not applicable

F. Methods Improvement

Experiments with different herbicidal materials in various formulations were continued in an attempt to reduce costs and improve effectiveness in controlling wild cotton plants.

G. Other

1. Cooperation received during fiscal year

Employees of the State Plant Board of Florida cooperated in the program by reporting or destroying any ornamental cotton plants that were found during their routine grove or nursery inspections.

The Department of Interior, Everglades National Park personnel, supplied labor and equipment for moving the labor camp site and furnished land for the site.

The City of Homestead, Florida, supplied thousands of gallons of water without charge for civilian use in the labor camp at Flamingo.

2. Associated activities and services

The local newspapers carried agricultural stories relative to the necessity of reporting to the local Plant Pest Control Division office any wild cotton or ornamental plants that may have been missed during the regular survey period. This resulted in good response from the public and many reports of wild and ornamental plants were received.

III. Recommendations for coming year

A. Survey

Survey should be expanded in order to detect any wild or ornamental host plants that may have escaped from normally worked areas through dissemination by storms, animals, etc.

B. Eradication or control

Additional tests should be instituted to devise a chemical procedure to induce germination of dormant host seed and thereby enhance the effectiveness of the seedling destroying phase of the program.

C. Regulatory

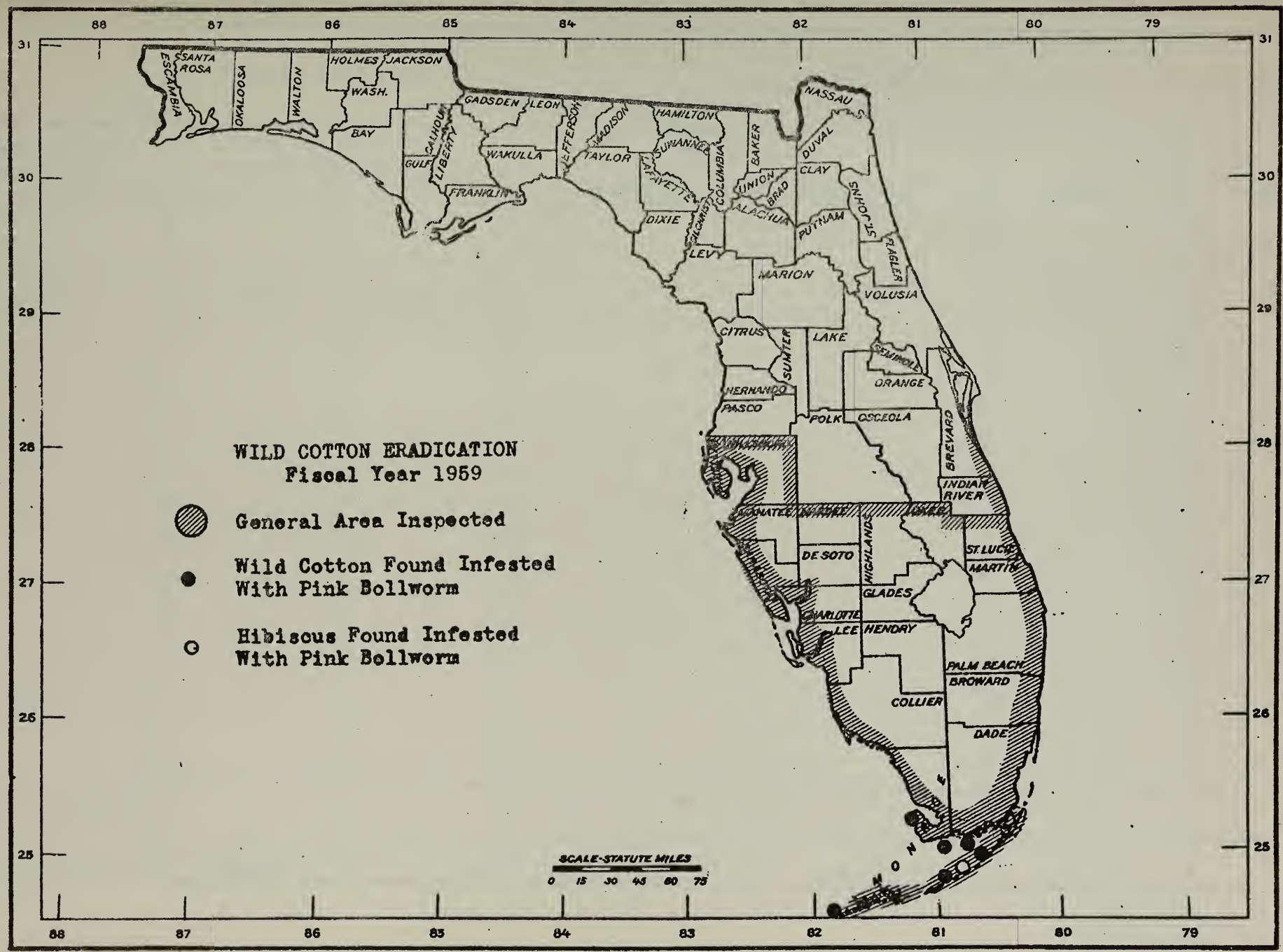
Not applicable

D. Methods Improvement

Research should be expanded on the use of chemicals or herbicides for the control of all host plants where applicable in order to reduce the amount of labor required under old procedures.

E. Associated Activities

More effort should be made to expand public relations work to better inform the public regarding this program.


WILD COTTON ERADICATION
Fiscal Year 1959
General Area Inspected
Wild Cotton Found Infested With Pink Bollworm
Hibiscus Found Infested With Pink Bollworm
SCALE-STATUTE MILES
0 15 30 45 60 75
SANTA ROSA
ESCAMBIA
OKALOOSA
WALTON
HOLMES
JACKSON
WASH.
BAY
GULF
CALHOUN
LIBERTY
FRANKLIN
GADSDEN
LEON
WAKULLA
JEFFERSON
MADISON
TAYLOR
HAMILTON
SUWANNEE
LAFAYETTE
COLUMBIA
BAKER
NASSAU
DUVAL
CLAY
UNION
BRAD
ALACHUA
PUTNAM
ST. JOHNS
FLAGLER
DIXIE
GILCHRIST
LEVY
MARION
VOLUSIA
CITRUS
SUMTER
LAKE
SEMINOLE
ORANGE
HERNANDO
PASCO
POLK
OSCEOLA
BREVARD
INDIAN RIVER
MANATEE
HARDEE
HIGHLANDS
DE SOTO
ST. LUCIE
MARTIN
GLADES
CHARLOTTE
LEE
HENDRY
PALM BEACH
BROWARD
COLLIER
DADE

WILD COTTON

REGION	PREPARED BY
Southern	
PERIOD (Designate Month, 1-15, 16-31, or 1-31)	DATE PREPARED
Fiscal Year 1959	

STATE, COUNTY, & CODE NUMBER A	INSPECTION OF BLOOMS, SQUARES, & BOLLS		ACRES CLEANED		PLANTS DESTROYED	
	NUMBER B	INFESTATIONS C	THIS MONTH D	THIS SEASON E	SEEDLING F	FRUITING G
Florida	85,917	9	-	14,802.73	36,774	3,797
TOTAL THIS PERIOD						
TOTAL FROM JULY 1	85,917	9	-	14,802.73	36,774	3,797

PPC FORM 7-14
FEB 1958

U. S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Service
Plant Pest Control Division

Program Wild Cotton

SUMMARY OF ASSOCIATED ACTIVITIES

Prepared by: _____

Region Southern

Fiscal year 1959

Area	Public Meetings Attended	Presentations					Feature & News Stories	Extent These Aids Were Used				Special Reports
		Talks	Slides	Films	Radio	TV		Exhibits	Bul.	Cir.	Infest. Maps & Posters	
Florida	2	1	1	-	1	-	-	1				
Total	2	1	1	-	1	-	-	1				

(*--*)

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
EASTERN REGION

ANNUAL PROGRAM REPORT

WITCHWEED

July 1, 1958 - June 30, 1959

COOPERATING AGENCIES:

State Plant Pest Control Agencies
Extension Service
and
Plant Pest Control Division
Agricultural Research Service
U. S. Department of Agriculture

November 1959
Moorestown, New Jersey

H. L. Smith
Regional Supervisor

TABLE OF CONTENTS

TABLE OF CONTENTS

I. Highlights of year's program activity

A. Accomplishments for the fiscal year

A limited detection survey for this parasitic plant was initiated in late summer in the southernmost counties of Virginia and in important corn growing areas in Maryland, Delaware, Maine, New Jersey, Pennsylvania, Virginia and West Virginia. A total of 16,055 acres representing 1,115 properties in 51 counties were inspected. These observations, made mostly in conjunction with other regular duties, revealed no evidence of witchweed infestation.

B. Major deviation from work plan

There was no deviation from work plan.

C. Status of program at close of year

There is no known witchweed infestation in this Region.

II. Program activity during fiscal year

A. Planning and direction

Survey activities were planned and directed jointly by cooperating State pest control officials and PPC Supervisors.

B. Technical assistance

PPC Division personnel provided program information and descriptive literature concerning the nature and significance of this plant pest to State and County officials, farmers and other interested persons. College students viewed colored slides on several occasions.

C. Survey

1. Procedures or techniques used

In most instances observations were made in corn fields. A limited number were made at railroad sidings and truck stops. Also, at several pickle factories receiving products from the infested area and at sites where migrant labor is employed. Observations were made by inspectors scouting corn fields and other suspect locations.

2. Accomplishments

Surveys were made on a total of 1,115 properties with an acreage of 16,055 throughout Delaware, Maryland, Maine, New Jersey, Pennsylvania, Virginia and West Virginia.

Growers in the principal corn production sections of the region have been made aware of the witchweed problem, alerted to be on the lookout for it and requested to report any weed growth suspected of being witchweed.

3. Statement or table of pest damage

No damage observed.

D. Eradication or Control

Not applicable.

E. Regulatory

Not applicable

F. Methods Improvement

Not applicable.

G. Other

1. Cooperation received during fiscal year

Employees of the New Jersey Division of Plant Industry made observations for witchweed in conjunction with regularly assigned duties.

2. Associated activities and services

Information on this plant pest was furnished to corn and other host plant growers and their cooperation in detection efforts requested.

III. Recommendations for coming year

A. Survey

Expand surveys to include all major corn producing areas in the region, with emphasis in southern sections.

B. Eradication or control

Not applicable.

C. Regulatory

Not applicable.

D. Methods Improvement

Not applicable.

E. Associated activities

Continue to disseminate information on this pest to growers and others interested.

WITCHWEED (STRIGA)

EASTERN REGION

FISCAL YEAR 1959

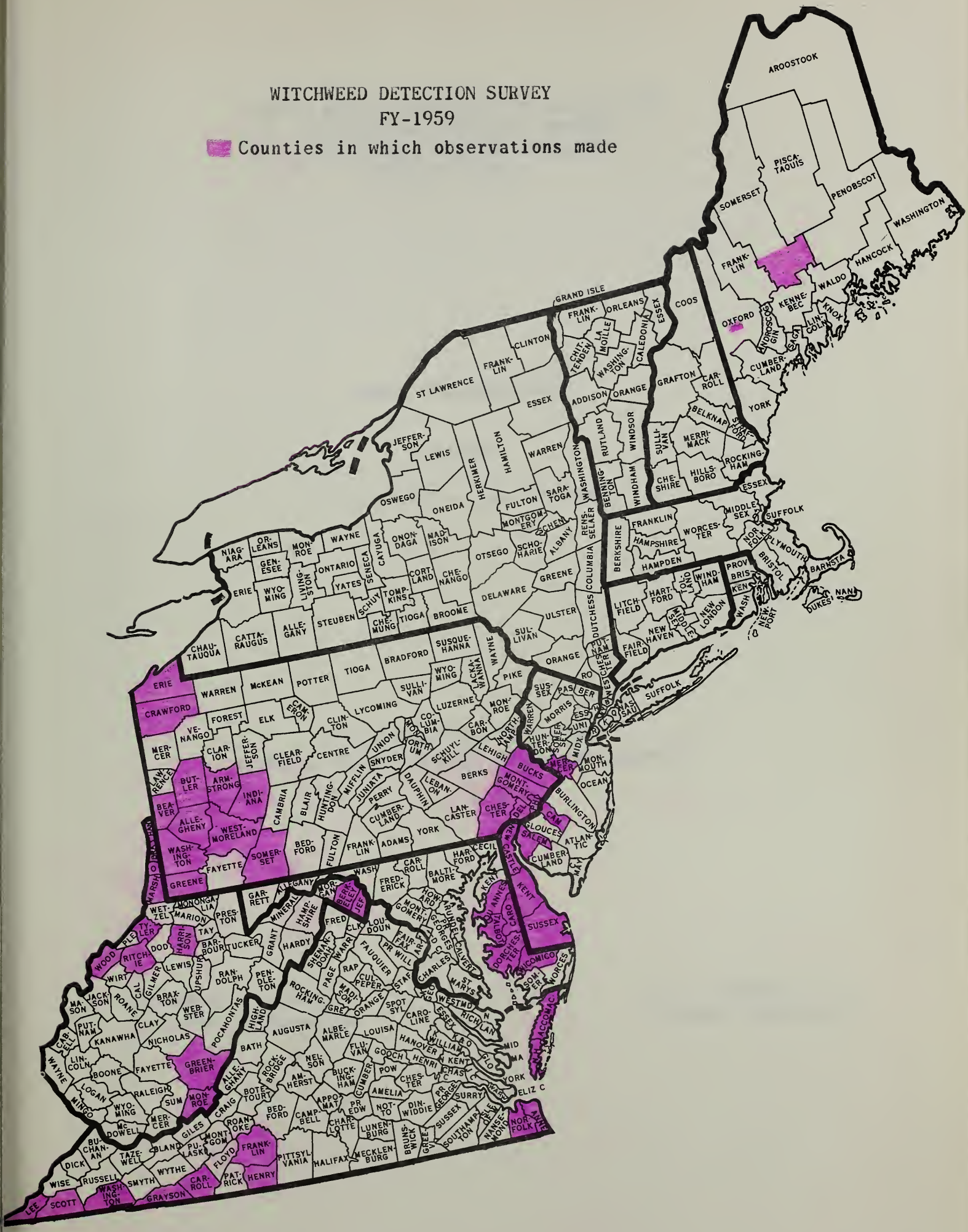
STATE COUNTY LOCALITY A	SURVEY		INFESTATIONS FOUND			CONTROL			
				Acres		Chemical		Cultural	
	Properties B	Acres C	Properties D	Cultivated E	Non-Cultivated F	Properties G	Acres H	Properties I	Acres J
Delaware	16	32							
Maine	4	62							
Maryland	75	102							
New Jersey	7	146							
Pennsylvania	71	642							
Virginia	891	15020							
West Virginia	51	51							
Total	1115	16055	-	-	-	-	-	-	-
Total from beginning of Program	2181	22149	-	-	-	-	-	-	-

Report: Total counties by States infested from beginning of program

PPC 7-21

WITCHWEED DETECTION SURVEY
FY-1959

Counties in which observations made



UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT PEST CONTROL DIVISION
SOUTHERN REGION

ANNUAL PROGRAM REPORT

WITCHWEED

July 1, 1958 - June 30, 1959

In cooperation with other
Federal, State, County, and Local Agencies

November 13, 1959
Gulfport, Mississippi

C. C. Fancher
Regional Supervisor

I. Highlights of Year's Program Activity

A. Accomplishment for the fiscal year

This year, 1,692 new infested properties were found in North Carolina, and 512 in South Carolina. Wayne County, North Carolina, was found infested for the first time. At the close of the 1959 fiscal year, witchweed had been found on 3,016 farms in 12 North Carolina counties and on 931 properties in 6 South Carolina counties.

Pilot areas placed in the catch crop and chemical control programs during the 1958 growing season proved these two methods to be practical. These approaches to the witchweed problem, therefore, were expanded in the spring of 1959, and slightly in excess of 15,500 acres were placed in the cultural program with 43,000 acres set up in the chemical program.

Marketing of all farm crops likely to spread witchweed was closely supervised, and associated farming activities were carefully watched to assure enforcement of sanitary procedures that have been developed to prevent witchweed seeds being moved from infested farms.

B. Major Deviation from Work Plan

None

C. Status of Program at Close of Year

Pilot areas for the catch crop and herbicide programs were selected early last year, and the work on this control was carried through the 1958 crop growing season. The control program was greatly expanded in the spring of 1959.

All areas in the Carolinas have been surveyed for witchweed. Last summer, 79 of the 100 North Carolina counties and 44 of the 46 South Carolina counties were visited by survey teams. Wayne County, North Carolina, was the only new county found infested. In the 12-county area of North Carolina, witchweed has been found on 51,510 acres of 3,016 farms, and on 26,090 acres of 931 farms in the 6-county area of South Carolina.

The fall crop of 1958 moved to market without incident. It is fortunate, however, that most crops grown in the areas, and there are about 26, moved but a short distance from farm to processing plant. Cotton is ginned locally, corn is shelled locally, there are two large peanut processing plants

within the infested area, tobacco is heat cured on the farm, sweetpotatoes are stored locally and washed and waxed before marketing, and a soybean crushing mill is located within the infested area. Other procedures have been worked out for such crops as fresh vegetables and small grain. Investigation has shown that proper processing removes witchweed infestation. Crops from infested land were directed to approved processing plants. Fumigation or cleaning by washing was required of farm tools, farm equipment, and construction equipment used in the infested area.

II. Program Activity During Fiscal Year

A. Planning and Direction

1. How planned and directed

State Plant Pest Control officials in the Carolinas have assisted in planning the field activities of survey, control, and quarantine enforcement. The field direction of the program has been a major responsibility of the Plant Pest Control Division. The plan of work developed with the State Plant Pest Control officials included survey to determine the extent and intensity of infestation, the use of cultural and chemical control methods to rid the soil of witchweed, and the enforcement of quarantine procedures to prevent further spread.

B. Technical Assistance

1. Technical assistance provided to farmers and others by program personnel

Farmers and others likely to be affected by control and regulatory procedures were kept fully informed during the season by inspectors assigned to the affected areas of the Carolinas.

2. Technical assistance provided to program by cooperating agencies

The Extension Services of Clemson College and North Carolina State College have been active in a general program to bring to the farm public all that is currently known about this new pest. Each college has distributed bulletins on witchweed. The North Carolina Extension Service has published Extension Folder No. 152, and the South Carolina Extension Service has published Circular No. 445. A bulletin, "Watch Out for Witchweed", has been published by the Agricultural Research Service.

All three have been given wide distribution. The radio, television, and press have disseminated much information about witchweed.

C. Survey

1. Procedures or techniques used

Wilting is the first visible symptom of witchweed attack on corn. This wilting can be seen early in the growing season. If wilted corn is pulled, grayish, root-like growths can be seen in the soil ball attached to the corn roots. Unlike corn wilted by lack of rain, corn attacked by witchweed does not recover. It soon turns a yellowish-green color, and remains stunted. Later, about mid-June, witchweed appears above ground and blooms. The witchweed plant can easily be detected by its bright red (occasionally yellow or white) flowers. The survey season is a long one, extending from late April to frost.

2. Accomplishments

During the 1958 survey season, inspectors examined corn fields in 79 North Carolina counties and in 44 South Carolina counties. Infestations were found in 12 North Carolina counties on 3,016 farms and in 6 South Carolina counties on 931 farms. The infested counties in the Carolinas are contiguous.

Surveys for witchweed infestations were conducted in 88 counties on 4,243 properties in the States of Alabama, Florida, Georgia, Louisiana, and Mississippi involving 90,597 acres of land. No witchweed was found.

3. Statement or Table of Pest Damage

Farmers can no longer grow corn on land heavily infested with witchweed. Some damage was present in all fields, even those of light infestation. While corn is not the principal cash crop in the Carolinas, it is a crop that all farmers plant for either grain silage or forage. The value of the 1958 corn crop in the Carolinas was estimated at $145,938,000.

D. Eradication or Control

1. Procedures or techniques used

The long-range plan of the Witchweed Program is eradication. Pilot areas on catch crop and herbicide applications were initiated during the 1958 growing season. Under the catch crop program, the land was taken out of normal cultivation, and host crops were planted to germinate witchweed seeds. These crops were then plowed under before the witchweed plant could make seed. This was followed by a winter cover crop. The herbicide 2,4-D was applied to other infested land. Both the catch crop program and the herbicide program were considerably expanded with the 1959 growing season.

2. Accomplishments

Farmers agreed to take 15,512 acres of witchweed infested land out of normal cultivation to plant the catch crops. Corn was planted in April or May as the first catch crop. This crop was turned under in July. Grain sorghum was used as the second catch crop, and this was followed by oats as a cover crop. The farmer will be paid on a per acre basis for completing the work of planting and plowing under the two catch crops and also for the planting of the winter cover of oats.

The amine salt of 2,4-D was applied, early in the 1959 growing season, at the rate of ½ lb. acid equivalent per acre. This rate was increased to 1 lb. per acre later in the growing season. Corn was the principal crop planted where 2,4-D was used. During the year, 14,583 acres of cultivated and non-cultivated land was herbicided.

E. Regulatory

1. Procedures or techniques used

All regulations, treatments, inspections, etc., were carried out as prescribed by Federal Quarantine No. 80 which became effective September 6, 1957.

2. Accomplishments

Crops were moved to market safely either by supervising the harvesting procedures to preclude contamination or they were sent to approved designated processing plants where prescribed treatments were made. Fortunately, crops were moved but a short distance from farm to processor.

The principal farm crops regulated included tobacco, cotton, corn, soybeans, sweetpotatoes, peanuts, and small grains. Fumigation was the method used to disinfest farm machinery, farm produce containers, and the by-products of the farm crops.

F. Methods Improvement

Following plans and procedures developed with personnel of the Crops Research Division of the Agricultural Research Service and with personnel of the North Carolina and South Carolina Experiment Stations and Extension Services, an accelerated methods development program has been placed into operation. A modern laboratory, with greenhouse facilities, has been built at the Whiteville, North Carolina Tobacco Research Station, and studies are underway to find more effective ways to deal with the witchweed problem.

G. Other

None.

III. Recommendations for Coming Year

A. Survey

Intensive surveys should be continued to detect incipient witchweed infestation in other North Carolina or South Carolina counties. Surveys should also be continued in other states of the Region throughout the season from late April until mid-November or the first killing frost.

B. Eradication or Control

All land known to be infested will be placed either in the cultural or chemical control program. As better methods of control are developed, they will be made a part of the field control program.

C. Regulatory

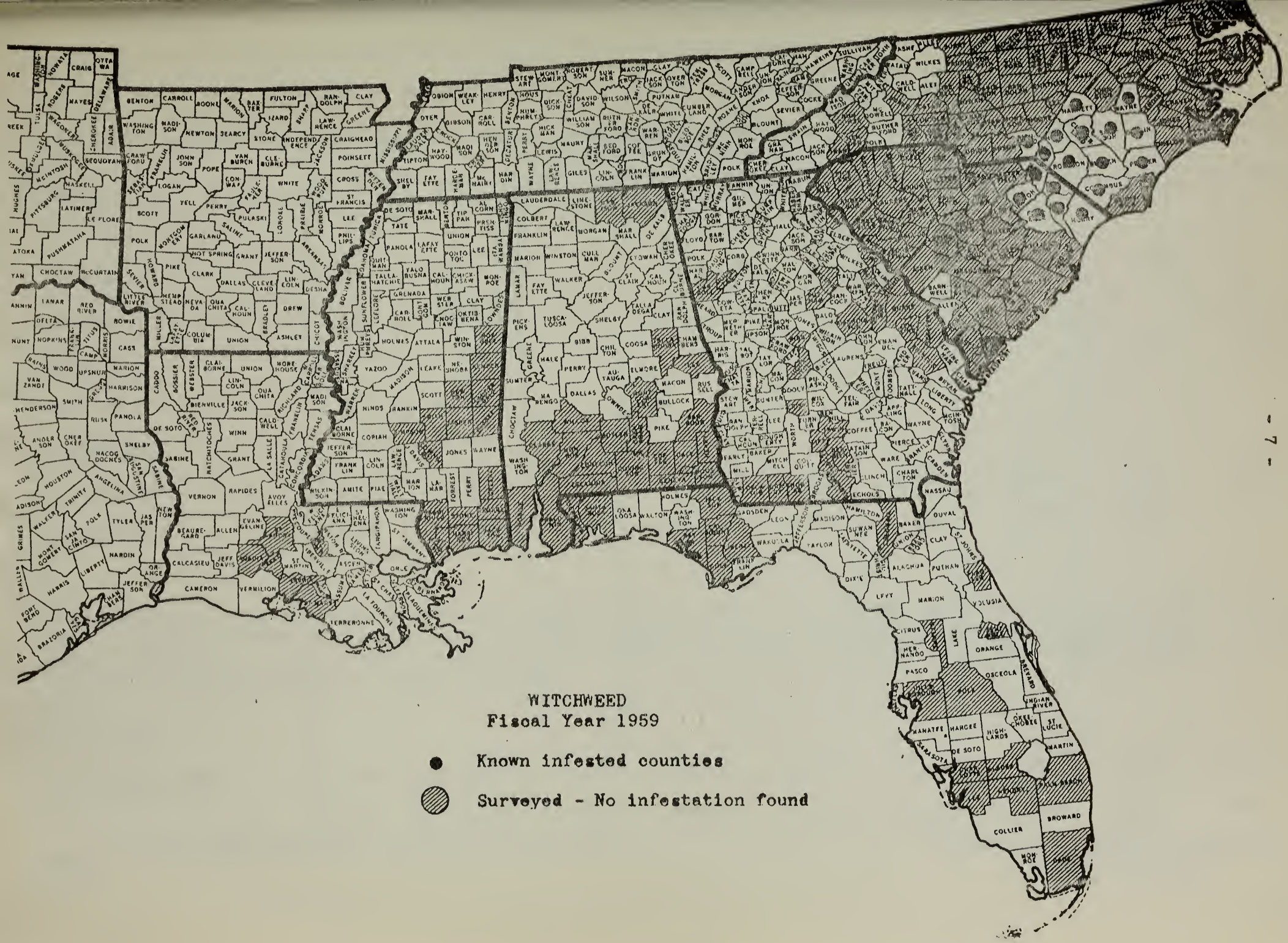
Quarantine enforcement must be continued. As improved methods of commodity treatments are developed, it may be possible to make present regulations less stringent. As new areas of infestation are found, they will be placed under regulation.

D. Methods Improvement

As research develops better methods of destroying witchweed, the field program of eradication will adjust to their use. Under the present organization set-up, immediate field trials can be made of any new method developed in the laboratory. This should greatly reduce the time element between research findings and field use.

E. Associated Activities

At agricultural meetings the witchweed menace was discussed, and bulletins and pamphlets were distributed.


WITCHWEED
Fiscal Year 1959
Known infested counties
Surveyed - No infestation found

WITCHWEED (STRIGA)

Region: Southern

Prepared by:

Period (Designate: Month, 1-15, 16-31, or 1-31): Fiscal Year 1959

Date prepared:

STATE COUNTY LOCALITY A	SURVEY Properties B	SURVEY Acres C	INFESTATIONS FOUND Properties D	INFESTATIONS FOUND Acres Cultivated E	INFESTATIONS FOUND Acres Non-cultivated F	CONTROL Chemical Properties G	CONTROL Chemical Acres H	CONTROL Cultural Properties I	CONTROL Cultural Acres J
Alabama	994	35,174							
Florida	168	9,520							
Georgia	1,771	20,480							
Louisiana	325	17,766							
Mississippi	985	7,657							
N. Carolina	27,151	742,931	1,692	39,682	11,828	2,157	12,461	928	9,977.3
S. Carolina	11,399	439,695	512	20,465	5,625	392	2,122	318	5,534.8
Total This Period									
Total From July 1, 1958	42,793	1,273,223	2,204	60,147	17,453	2,549	14,583	1,246	15,512.1
Total From Beginning of Program	87,381	3,132,141	3,947	60,147	17,453	2,829	15,250	XXX	XXX

Re-evaluation of infested areas in N. & S. Carolina caused acreage to be reduced below that reported at close of F/Y 1958. Therefore, total inf. acreage from beginning of program, as listed on this report, is the same as for F/Y 1959. This gives the appearance of all known infestations having been found in F/Y 1959. However, infested acreage on this program was first recorded in Sou. Reg. in 1956.

Report: Total counties by States infested from beginning of program

PPC 7-21
(Feb.-58)

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Service
Plant Pest Control Division

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Agricultural Research Service
Plant Pest Control Division

Program Witchweed

Region Southern

SUMMARY OF ASSOCIATED ACTIVITIES

Prepared by: _____

Fiscal year 1959

Area	Public Meetings Attended	Presentations					Feature & News Stories*	Extent These Aids Were Used				Special Reports
		Talks	Slides	Films	Radio	TV		Exhibits	Bul.	Cir.	Infest. Maps & Posters	
Florida	-	1	4	-	-	-	-	-	-	190	-	-
Georgia	-	1	1	-	-	-	-	-	10	-	-	-
Total	-	2	5	-	-	-	-	-	10	190	-	-